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ORIGINAL ARTICLES.

ON THE VALUE OF THE AUTOPSIC FINDINGS IN SUBJECTS DEAD FROM SUSPECTED YELLOW FEVER.

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THE history of yellow fever establishes clearly the fact that it has been, and continues to be, of absorbing interest to all who have come in contact with it, because of the obscurity which has always enshrouded its etiology, the comparative difficulty in diagnosis, and the varying severity of the disease during different epidemics and in different localities. Naturally the question of its diagnosis, upon which depends very frequently the safety of large communities from its ravages, and, *per contra*, the integrity of commercial relations between a suspected place and other reactive centers, is a most important one. For many years the external appearance of the dead body, and that of the internal organs, has been accounted of great value to the diagnostician; and it is of the comparative value of such appearances to one called upon to make a decision under such conditions that this paper treats.

The yellow-fever cadaver has assuredly a most characteristic appearance. All subjects dead from the disease bear a close resemblance to each other; indeed it would not be difficult to make a diagnosis, other facts being favorable thereto, from the cadaver alone. The body is usually quite rigid, this change in the muscles coming on early and persisting. The color is invariably more or less intensely yellow, and is due to a mixed hepatogenous and hematogenous jaundice. The entire skin is tinted, the scalp usually presenting a startling contrast to the parted hair, and the whites of the eyes are yellow, the change taking place in the conjunctivæ early in the disease, the scleræ becoming tinted later. This yellow tint is always contrasted with the deep purple discolorations from hypostasis which quickly appear in the skin of the dependent portions of the body after death, and which frequently appear before. It is at the edges of these hypostatic areas that the mixture of biliary and blood jaundice is particularly noticed as a muddy, thick, grayish-yellow tone. Hypostasis is common to all cadavers, but particularly is it prominent in this disease. It is not confined to the lower portions of the body, as the buttocks, loins, and shoulders, but invades the neck, chest, ears, and face; the genitals, as a rule, and the finger- and toe-nails, are of a deep purple color. This discoloration occurs quickly, and is prominent within an hour after death. The pupils are usually dilated, the tongue foul, and the gums bloody; the anterior nares are caked with blood. This is a picture of a typical yellow-fever cadaver, and the appearances may be accentuated or softened, but the characteristic ensemble will be present in all.

My experience in autopsies on subjects dead from malarial fever in the South, has shown me that there are externally many points of resemblance in them to the yellow-fever cadaver, and at times I feel assured the decision between them would be very difficult or impossible. Dependence must then be placed upon the conditions found in the internal organs. Section shows deep yellow tinting and dryness of the superficial tissues and the peritoneum, a glazed appearance of the intestines, which are dry and sticky to the touch, and a deep-tinted peritoneal fluid. The organs are of a yellow tint, ranging from light to deep saffron. The omentum is deeply congested, the dilated, purple veins contrasting with the general tint. The spleen is usually of normal size and appearance; any deviation suggests preceding or complicating disease. The kidneys are always congested and swollen; the stellate veins of the capsule are prominent; the capsule itself is not influenced by the disease; frequently there are extravasations upon the cortical surface. Incision of the organs shows congestion of the renal veins, yet the general appearance is pale. The cortex is swollen, its markings usually obscured, and at the bases of the pyramids of Malpighi there are seen pale yellow fatty areas. These are very generally seen, and in cases of long duration a general fatty appearance is present. I would attract especial attention to these fatty areas about the base of the pyramids within the cortex, for they can be seen when the kidney otherwise appears free from fatty change. The adrenals are normal. The urinary bladder is usually empty, from anuria; its mucosa may present extravasations. In one case only have I known bloody urine from such extravasation. The mesentery is always typically congested, yet I have but rarely seen extravasation in its layers; the congestion is more marked in the reflection upon the duodenum.

The liver, long considered the pathognomonic organ, may or may not be normal in size, but any deviation from the normal I consider dependent upon some other cause, for if the histology is considered it will be seen that upon the increased amount of blood in the vessels depends any increase, while the termination of the disease must anticipate noticeable decrease in its size, from absorption of the fatty detritus. I have usually found the organ normal in size. The gall-bladder is generally empty, owing to intra-abdominal pressure from vomiting and decreased secretion, but may contain a normal amount of bile. The color of the organ varies from a light buff, or "box-wood," to a dark brown, this seeming to depend upon the amount of congestion, the left lobe and upper portions being, as a rule, lighter in color than the right and more dependent portions, the posterior surface being a dark blue from stasis. At times this fatty appearance is diffuse, and again there may be only plaques of yellow upon the surface, or throughout the organ. A frequent appearance is that of the so-called "nutmeg" liver, the yellow points contrasting with the red lines about them. Upon section, the liver, if not the subject of preceding disease, presents a normally firm resistance, is of firm consistence, at times friable and dry, of a pale yellow color, and imparts to the blade a greasy stain. The portal vessels are full of dark fluid blood, which changes to carmine on exposure to the air. The venous radicles are distended, the adjacent parenchyma showing fatty change, and this contrast results in the "nutmeg" appearance. The smaller bile-ducts are empty. The capsule is normal. The vessels of the stomach walls are congested, also those of the omental reflections. The stomach may contain more or less blood-stained fluid, which if exposed to the acid secretion for some time may have the "coffee-grounds" appearance. Frequently the content is a thick, glairy, grayish mucus, which clings to the mucosa. The mucosa itself is invariably thickened, swollen, and presents numerous patches of extravasation and shallow erosions. While the entire membrane may be affected, the changes are more marked on the anterior surface and near the pylorus, the membrane here presenting a deep port-wine stain from diffuse extravasation and often evidence of free hemorrhage. If many hours have elapsed between demise and autopsy the membrane will be found much softened and with many erosions from post-mortem change. The vessels of the duodenum are engorged; the mucosa is swollen, eroded, and hemorrhagic; in some instances it contains black, grumous blood, from which the stomach is free. The mucosa of the entire canal may present evidences of ante-mortem congestion in the form of minute extravasations. In the female there may be extravasations in the ovaries or the mucosa of the tubes and uterus. The vessels are prominent on the surface of the diaphragm.

Within the thorax the general yellow tint prevails, there being nothing notable about the lungs save congestion; the pleuræ frequently present ecchymoses. The pericardium, both visceral and parietal, also is frequently ecchymotic. The heart is usually in diastole, or the left ventricle may be rigidly contracted from change in the muscle, the right being always dilated with dark fluid blood. There is always present a very notable congestion of the vaso vasorum of the great vessels at the base of the heart, these minute vessels forming a delicate tracery over their serosa and upon the walls of the auricles, which at times present minute ecchymoses. I deem this a very constant and characteristic appearance. The heart muscle does not show fatty changes very often to the unaided eye. The fluids of the pericardium and pleuræ are yellow. The changes in the brain and its membrane are those of intense congestion, the fluid of the ventricles being yellow, and there may be extravasations.

Such are the findings in a typical yellow-fever cadaver. It is sometimes said that a yellow-fever autopsy is a bloodless one, but this expression must have arisen because of the limited scope of many hastily made sections, which consist in an exposure of the liver and its incision; the extraction of a kidney, and the exploration of the stomach *in situ*. In reality, the full influence of the toxin is felt upon the vasomotor system, and results in an incomparable congestion of the vessels of the abdomen, and when complete the section presents an appearance quite the reverse. A study of the histopathology of the organs must be limited to the examination of fresh sections from the liver and kidneys, for in these the fatty changes are best seen. The liver cells are more granular, stain more faintly, and contain numerous fat-droplets; those of the kidneys lining the tubules, especially of the cortex, are also filled with drops of fat. These gross changes are readily detected, and if facilities are at hand they should be sought for. But the importance of an immediate diagnosis will have long passed before the finer histologic changes may be observed.

I have said that the above appearances are constant in the cadaver of yellow fever. The question then arises as to their diagnostic value. Is it possible to arrive at definite conclusions from an isolated case presenting all of these signs? Would we be justified in such cases either in withholding quarantine protection from a community, or in initiating quarantine to the possible detriment of commerce?

The last phase of the question is a most important one, and at times exercises as much influence as the first. From recent observation I feel safe in asserting that it is not possible to diagnose this disease from the appearances and the gross microscopic findings alone. I do not undervalue their importance when taken in due consideration with the history of the case, the clinical charts, and the history of albuminuria, in assisting to form an opinion, but in the absence of these accompanying facts they are not sufficient to name the disease, although a diagnosis may be safely ventured in the absence of any other known cause of infection.

Just here I will venture tentatively upon the question of etiology as having a direct bearing upon what has been said. All observers in this field have recorded the presence of the bacillus coli communis in its many forms in the blood of patients living, and more freely in the blood and tissues of those dead from yellow fever. Sternberg, in 1889, discovered, among other forms in the tissues of such patients, a bacillus of such peculiar physiologic and vegetative characteristics that he assumed for it a distinctive position among these organisms, and from its influence upon animals, a possible etiologic value in this disease. This was bacillus X. In 1897, Sanarelli, of the University of Montevideo, published his discovery of a bacillus which, he claims, causes the disease, and which he named the bacillus icteroides. These organisms present many similar features of growth and chemic reaction, yet there are sufficient distinguishing characteristics to ensure them separate places in the group of colon organisms; for during my observation upon these, and other organisms from yellow-fever cases, it became evident that the former belonged to this group, and it appears probable that the bacillus of Sanarelli was alone to be classed among them. On September 28, 1897, it was my privilege to observe a case of yellow fever at the isolation division of the Marine Hospital Service detention camp at Fontainebleau, Miss., in the person of one Goodrich, and from cultures from his blood on the fourth day of the disease (which was well marked) to isolate a bacillus, which corresponded to that of Sanarelli, from a contaminating colon bacillus. This was designated bacillus "Goodrich," and was esteemed the first organism isolated after Sanarelli in this country. Later, in the City of Havana, and in concert with my colleague, Passed Assistant-Surgeon H. D. Geddings, United States Marine Hospital Service, this bacillus was isolated from a number of cultures taken in the Isolation Hospital in New Orleans during the epidemic of last year. Besides the organisms isolated by us from these native sources, it was our privilege to study a limited number of cases of yellow fever in the military hospitals of Havana, and in sixty per cent. of these we isolated the same bacillus. In all of these instances this organism maintained its distinctive characteristics from the bacillus X.

Experimental inoculations with these organisms were usually fatal to animals, which exhibited more or less pronounced rapid or prolonged symptoms of intoxication, but necropsy always gave similar appearances in the different organs. As an example I give the notes from an autopsy:

Pig No. 2, white female, weight 525 grams, was injected intraperitoneally with 1 c.c. of a twenty-four-hour bouillon culture of bacillus "Goodrich" at 3 P.M. on February 9, 1898. On the morning of the 10th the animal exhibits evidence of distress, does not eat, remains crouched in cage; abdomen tender. Temperature, 37.3° C. (99.2° F.); respirations, 80. At 3 P.M. the animal is quite ill, and has lost 42 grams in weight. At 9 A.M. on the 11th it died. Necropsy immediate. Body still warm. Heart first exposed; in diastole and full of dark fluid blood; the vaso vasorum distended over the great vessels at the base; pericardium and fluid slightly tinted. The liver is congested with numerous plaques of a yellowish-white fatty appearance; when incised this fatty appearance is general. The spleen is slightly increased in size and congested. The kidneys much congested and swollen. The urinary bladder contains 6 c.c. of urine which, by the cold nitric-acid test, gives a dense ring of albumin, and which is also shown with heat and nitric acid. Peritoneum not inflamed; some injection at the point of puncture to left of median line; in the left iliac fossa there is a small quantity of cloudy fluid localized. Mesentery normal save an intense engorgement of its vessels, especially in its duodenal reflection. In the stomach the mucosa is congested, thickened, and softened, especially about the pylorus; that of the duodenum much congested with numerous small extravasations, but no free hemorrhage. Cultures from blood of organs, and from the fluid from the fossa, give, after twenty-four hours, colonies only from the latter. This is a pure culture of the inoculating organism. After forty-eight hours tubes from the left pleural fluid also exhibit colonies of this organism in pure culture, the spleen also giving a colony free from contamination. Cover preparations show only a small characteristic rod in pure culture from the fluid in the iliac fossa.

In this case there was no free blood in the stomach or bowel, but in the very next of my series there is this note: "Mucosa (stomach) injected and near the pylorus there are ecchymoses and at one point at least there is free hemorrhage, which has stained the food-mass a dark or black color. This looks like 'coffee-grounds.'" This experience has been that of many other observers. These organisms elaborate a toxin which exerts a characteristic and

powerful influence upon the vasomotor system, as evidenced in the intense engorgement of the vessels, the gaseous, toneless pulse, and the full diastolic heart, prior to and post-mortem; also, in that rapid metamorphosis of the albuminoids of the highly organized cells of the liver and kidneys. The intention is not to contrast these organisms, but to accentuate the fact that there is no constant sign at these autopsies by which we can name the particular one which has produced the disease.

Here I will revert to the subject proper, the value of these post-mortem appearances in the human body. And again I must refer to notes kindly furnished me by Dr. B. E. Baker, of the Army General Hospital at Key West, Florida, in order to illustrate their value. The U. S. S. "Yankee," cruising on the southern coast of Cuba during June, 1898, entered Key West harbor. She sent to the hospital a seaman ill for one week with appendicitis. Her officers later stated that a few Cubans had been entertained on board during the cruise, and that several boat crews had been sent on board of captured vessels for the purpose of destroying them, but that no baggage or effects had been allowed on the vessel excepting four dogs and a few machetes. On the third day after entering the hospital, and second after operation for appendical abscess, the patient developed high fever, became delirious and died on the fourth day, the entire illness having lasted about ten days. Prior to death the acute exacerbation (the temperature having fallen to normal after the operation) and the mental symptoms attracted attention. The skin was noticed to be jaundiced and suffused, as were the eyes. The urine contained no albumin at this time, but was found to contain it after death. At autopsy the general appearance of the body impressed the operator, Dr. Baker, with the probability of its being the subject of yellow fever, and I was called in consultation. After a careful examination of the body and organs I concurred in the diagnosis of yellow fever.

Necropsy made five hours after death. White male adult, poorly nourished; rigor marked; conjunctivæ slightly jaundiced; pupils normal; post-mortem lividity on back and neck and dependent portions of the body, on scrotum and prepuce; the face, neck, and anterior portions of trunk a bronze yellow color, not so marked on the legs. On section, there is about 12 c.c. of clear bile-stained fluid in the pericardial sac; the membrane contains a few ecchymotic spots in its reflection over the diaphragm; the visceral reflection also is ecchymotic, and presents extravasations of blood well marked at the base of ventricles; the vasa vasorum distended; the heart normal in size; the left ventricle contains small amount of soft blood-clot; the right auricle and ventricle distended with dark fluid blood; valves competent, muscle is pale and yellowish; aorta tinted, some atheroma about valves. The pleuræ shows old adhesions; the lungs are normal. The abdominal cavity is dry; the intestines sticky; the mesentery and the omentum show ecchymotic patches; the glands are enlarged. The spleen is normal in size and color. The kidneys are slightly increased in size; congested; the stellate veins of the capsule well marked; the inner edges of the cortex, near the bases of the Malpighian pyramids, show a yellowish tinge; suprarenal bodies normal. The liver is normal in size, of typical nutmeg appearance, with lemon-yellow areas and spots scattered over the surface; the gall-bladder contains 45 c.c. of thick greenish black bile. On section the liver presents a typical nutmeg appearance, and much congestion. The stomach is somewhat dilated and contains 250 c.c. of brownish black fluid with brown granules; the mucosa is congested throughout, but especially on the posterior wall near the cardiac extremity. (When washed there were great plaques of deep wine-colored extravasation and numerous erosions.) The mucosa of the duodenum is ecchymotic, and there is free hemorrhage in the form of "black vomit." The last inch of the ileum is bound down by adhesions, as are the caput coli and the cecum. On freeing the gut a small abscess cavity is seen between it and the abdominal wall, in which is the vermiform appendix, with a slough in its distal portion, the upper two-thirds being normal. (This cavity was drained through an incision in the abdominal wall.)

In this case there was no doubt in my mind that death had been caused by infection with one of the organisms of the group already named, but with which one? Here there was an acute appendicitis, with localized abscess, and perfect drainage. Was it clear that death had taken place from a general infection from the colon group? Not at all, for this patient had possibly or probably been exposed to the infection of yellow fever through the presence on board his ship of persons who may have conveyed infection in their clothing. The time elapsed since such possible exposure was about the incubation period of the disease. If we assume that the fever developed in the hospital it must have been contracted on the ship, since there has been no yellow fever in Key West during the present season. In this remarkable case, remarkable because of the element in it of serious possibility, amounting to probability of exposure to the infection of yellow fever, contrasted with the fact of local if not a general infection with

the bacillus coli communis, I concurred in the diagnosis of death from yellow fever honestly, for this was a yellow-fever cadaver as we know them from external appearance and anatomical facts. However, I am now convinced that it was simply an intoxication from auto-infection with some member of the colon group of organisms. For, notwithstanding the fact that the crew of the "Yankee" was composed of young Northern men, the New York Naval Reserves, and that the surgeons, nurses, attendants, and neighboring patients were reagents, there has been no sequel to the case, nor is it reasonable to assume that this seaman, ill in his cot from appendicitis, should have been the only one of all the reagents on this ship to have contracted the possible infection.

The city of Key West was the base of naval operations against Spain. Its poor sanitary condition, the presence of a large number of non-immune residents, and the necessity of keeping the base open, all seemed to me to demand the diagnosis which we made, for under the circumstances the only harm possible would be the restraint placed upon the inmates of the hospital for the prescribed time and extra vigilance upon the part of the medical officers on board the ship. Only a few minutes after the post-mortem one of the medical officers, a reagent, asked me, "How much danger of infection have I risked from my presence at the operation upon this subject, and my having visited it several times since?" I replied: "None, provided this man has not come into contact with the infecting agent of yellow fever." Moreover, I felt willing to assume the responsibility, provided also all blame in continuing the routine of the hospital without other restraint than strict vigilance until some sequel demanded its isolation. However, was the autopsy in this case of material assistance of itself? In the absence of any history of possible infection could any one, familiar with the appearances in the organs of animals killed with the organisms mentioned, and comparing these with those found in yellow-fever organs in man, have unhesitatingly decided in this case? Yellow fever, clinically studied, has impressed many observers, since I have heard it frequently expressed among the profession of Southern cities that it is a disease in which probably two etiologic factors are present, the primary or external agency, giving rise to the initial symptoms of the disease, and a secondary or internal agent of auto-infection. Is it not possible from what has been shown that the auto-infection may be productive of the autopsic appearances? This view of the disease is reasonable, but not yet proved, nor will it be until the indubitable cause of yellow fever is discovered, that is, an agent which not only can give rise to the appearance of yellow fever, especially post-mortem, but can, as in the case of the bacillus of diphtheria, give rise to an acute dissemination of the disease among those who are reagents. This has not been demonstrated either in the case of the bacillus X. or of bacillus icteroides. We should not hastily decide upon the etiologic value of an organism, so closely allied to the colon group as are the two named, from the influence exercised upon the sick by the exhibition of its antiserum, but depend rather upon its power to reproduce the disease, "catching" from person to person, and of the antiserum to prevent such infections. Finally, I would suggest that typical autopsic findings should always be regarded with suspicion, and demand immediate investigation of their cause. Should there be, or not, any local center of auto-infection, there should be an investigation of the immediately preceding history of the patient, and should there prove to be evidence of exposure to infection of yellow fever, and should the clinical charts and history present the evidences of the disease which we have learned to recognize, then and only then can the information gained post-mortem be of decisive value to the diagnostician.

CATGUT SUTURES AND LIGATURES.[1]

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SHALL we continue or shall we discontinue the use of catgut in gynecological surgery? is a question of great practical import and one which, in view of the tens of thousands of clinical experiments made by the members of this Society in the aggregate, we ought to be able to answer definitely to-day.

The importance of any given suture is enhanced or depreciated by the relative qualities of other suture materials, their durability and their liability to lodge sepsis. The alternatives to the catgut suture are silk, silver wire, and silkworm gut. A further matter for investigation is the relative value of these materials for sutures and for ligatures. In general, if I had to abandon all sorts of sutures and ligatures but one, I would unhesitatingly prefer to keep catgut as the one which unites in itself the most advantages with the fewest drawbacks. Having, however, a choice among the four materials mentioned, I am accustomed to discriminate with regard to certain of their peculiarities and to employ one or the other, or all of them in a given case. Catgut should not be used exclusively for these two

[1] Read in the discussion on "Should Non-absorbable Ligatures Be Discarded in Gynecological Surgery?" at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

reasons: it does not bear tension well, and in surface work it is liable to infection. The great danger of catgut is the absence of scientific bacteriologic control of its preparation from the raw state and its liability in occasional instances to harbor infectious organisms. This, which was the burning question of ten years ago, has now been definitely set at rest by the cumol sterilization of catgut, by which the hydrocarbon at a temperature of 155° to 160° C. renders the gut sterile beyond a peradventure. By this means the whole question as to the propriety of using catgut has been placed upon an entirely new basis, and the query is no longer as to the possible risks, but as to the intrinsic properties of the material as a suture and as a ligature. With a suitable apparatus there is no danger from the explosion of the cumol during the process.

I do not feel able to express an opinion as to the possibility of sterilizing catgut by prolonged boiling in alcohol, even under pressure, or as to the bactericidal power of the formaldehyd solution. I look askance at the dry-heat methods of sterilization so extensively used throughout the West.

Before the advent of the cumol method of Menge, and the cumol-dry method as suggested by Clark, I lost three cases where I could trace the deaths from septic peritonitis to no other cause than the catgut. Since using this method I have never seen a single instance of infection where there was the slightest reason to suspect the gut, although I have used, I believe, on an average, about fifty strands a day for more than two years past.

My experience with catgut is limited to the lighter strands; stout, heavy catgut I have never used. I consider catgut the ideal ligature for vessels of small size, and I have used it without stint in controlling hemorrhage, except for large vascular trunks, such as the internal iliac and uterine arteries, where I use light silk. I had a case of death about two years ago from the absorption of the catgut ligature applied to the right uterine artery after a supravaginal amputation of the uterus; the bleeding occurred about the eighth day and was fatal before we could check it. Since using silk only in this limited way, and using catgut extensively in the abdomen, I have never had to fish out my ligatures after operations.

In the plastic work in the vagina I take the tension off the areas to be held together by a single silkworm-gut suture on the cervix holding the lips together, and in the vagina loosely approximating broad denuded areas; the catgut then comes in to do the work of accurate approximation where there is no tension.

In the abdomen I sometimes use a single fine silk suture to draw the lips of the cervix together in the middle, and fine silk ligatures on the large vascular trunks, all the rest of the ligating and suturing being done with catgut.

In the abdominal incision I have long used catgut throughout, in three or in four tiers, for incisions two inches long or under; in longer incisions, in approximating the fasciæ and recti, I divide the wound up as suggested by Dr. W. Russell, by silver-wire mattrass sutures, placed about an inch and a half apart, and then use catgut in between. The wire takes the tension and the catgut secures accurate union between.

In genito-urinary work, catgut is safe in the cortex of the kidney, and it has proved safe in uninfected cases wherever I have used it, even where it has shown on the mucous surface. It is absolutely safe in the muscular tissue outside the mucosa. It is not safe when there is any decomposition of the urine.

I have used catgut with the loops of the sutures appearing on the mucous surface of the bladder, and after the absorption of the buried portion of the suture, the loop was discharged by the urethra.

The best way to use catgut in the genito-urinary apparatus is to bury the entire suture in the tissues lying outside of the mucosa; treated in this way they act like buried catgut sutures at any other point. If there is any tension to be overcome I then prefer using fine silk in my urinary work, if the silk is buried so as not to appear on the mucous surface; it never does harm and does not have to be removed. I think with silk of this fine sort and with catgut we can best close all wounds of the upper urinary tract and involving the bladder above its base. More powerful sutures are often necessary to overcome the tension produced by bringing together the tissues at the base of the bladder, as for example in vesico-vaginal fistula. Even here, however, I think we will do better if we free the bladder from the vagina on all sides so that it comes loosely together, and then close it with the fine silk and catgut sutures.

Permanent sutures of any sort whatever attract the urine salts, and form calculi if they are exposed to the contact with the urine. In this way calculi have been removed containing, as a nucleus, silk, silver-wire, and silkworm gut.

The Accommodations at Montauk.—The hospital accommodations at Montauk are still deplorably lacking in number and in convenience. The general hospital, which was built to accommodate 500 patients, already contains 1100, so that the sick are badly crowded. The result is that the sick men in the various commands are perforce thrown back upon the regimental hospitals, which are nothing but ordinary privates' tents—some of them occupied by the well as well as the sick.

HYPNOTISM IN PREGNANCY AND LABOR.[1]

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THIS subject is one of the very greatest importance to every general practitioner in whose sphere the phenomena accompanying pregnancy rightly belong. I shall leave out of consideration psychic influences that can be brought to bear upon the fetus, for though the possibility of such influences is supported by facts, they are regarded as mere coincidences. I shall not touch upon the mode of action of suggestive therapeutics in general; that I have detailed in a paper, entitled "Hypnotism as a Therapeutic Agent," which was read before this Association, and published in the *New York Medical Journal* of May 30, 1896. For purposes of convenience I shall divide my subject into three parts, describing my experience with the hypnotic treatment first in the pathologic conditions of pregnancy, then in normal labor, and, finally, in the puerperal state.

As regards the first subdivision, there are, I think, only three abnormal conditions in pregnancy in which suggestive therapeutics may be of use. These are: (1) hyperemesis gravidarum; (2) anorexia, with disgust for certain articles of food; (3) abnormal craving for particular foods, and especially for unpalatable substances which are usually not regarded as food. Simple vomiting occurring once or twice a day is an almost constant physiologic condition of conception and pregnancy. It is usually not very troublesome, and as pregnancy progresses it generally ceases spontaneously at the end of about the third or fourth month; in most cases, therefore, it is not a symptom that requires any interference. The case is different, however, when the vomiting lasts beyond the usual time, or when it is so frequent and violent that the patient's nutrition is interfered with, thereby impeding the process of digestion and threatening the well-being of the mother and lowering the vitality of the child.

The worst types of this condition, vomitus gravidarum perniciosus, imperatively calls for interference, for the persistent rejection of food is a menace to life itself. Every practitioner is acquainted with this condition of slow starvation, aggravated by the continuous gagging and vomiting soon after the ingestion of foods or liquids. The etiology of pernicious vomiting is still an unsolved question. Is it a reflex irritation of the stomach caused by an irritation of the nerves of the uterus, or is it an irritation of the center of vomiting dependent upon an alteration of the intracranial pressure, or is it a disturbance of nutrition of the central nervous system, as some authors assert? We do not know. Horwitz claims that it is due to a parenchymatous inflammation of the uterus, and especially of the fundus. Graily Hewitt thinks the cause of the reflex irritation of the nerves is the pressure of the gravid uterus upon the nerve terminals. Bretonneau finds its cause in the inverse ratio of dilatation of the uterus to the growth of the ovum. Experience has taught us that either the intra-uterine death of the fetus or the spontaneous or artificial expulsion of the child, or sometimes dilatation or cauterization of the cervix uteri, will put a stop to the vomiting. Drugs and dietetic measures do not seem to have much effect upon this condition, but it has sometimes been observed that mere change of location or environment, such as is effected by the temporary return of the patient to a former home or to the house of her parents, will also relieve the vomiting. Being thus amenable, in some cases at least, to psychic influences, it has been thought worth while to try suggestive therapeutics, the influence of which is more powerful in this form of abnormal pregnancy, and more especially in cases in which the environment could not be changed. This has been tried in such cases very often both in Europe and in this country with good results. Permit me to cite a few cases of my own to show its action.

CASE I.—Mrs. I. K., thirty-two years old, born in Hungary, had three children. She came to me in the second month of her fourth pregnancy. I had previously relieved her of a facial neuralgia by suggestion, and she now asked me to do something for her vomiting. She had suffered from the same trouble during her former pregnancies. In these vomiting had occurred many times daily during the whole nine months of gestation, and though she had suffered continually from hunger and thirst, she had never been able to retain more food than was just sufficient to keep her alive. I hypnotized her. After the first séance the vomiting ceased entirely. To ensure the permanency of this result and counteract the feeling of disgust for certain articles of food, such as meat, etc., that she sometimes experienced, I repeated the suggestions several times. One suggestion was usually enough to cause her to like food which was previously unbearable to her. The entire subsequent course of her pregnancy was free from vomiting, and her general condition remained excellent.

CASE II.—Mrs. B., twenty-one years old, born in New York of Irish parentage. In the fall of 1896, toward the end of the seventh month of her pregnancy, she began to suffer from uncontrollable vomiting. During the previous months she had vomited regularly once or twice daily, but the emesis

[1] Read at a meeting of the Medical Association of the County of New York.

was not violent, and she was able to retain enough food to feel fairly well. She had taken cold while at the seaside, was coughing, and the vomiting had then become so persistent that she could not retain any foods or liquids at all. For four weeks two physicians had tried to stop the vomiting with various drugs, but it became worse, until at last even the smallest quantity of liquid was rejected. She was emaciated almost to a shadow. She was literally starving, and during the last few days the rejected food was mixed with blood.

The husband, whose mother and sister I had had occasion to treat hypnotically, called me in consultation with the attending physicians. They proposed to dilate the cervix uteri, that, in their opinion, being the *ultimum refugium*. I advised a trial of hypnotic suggestion, but they did not agree with me as to its advisability. I then asked a trial of twenty-four hours, remarking that if at the end of that time suggestion did not succeed there would be time enough to resort to dilating the os, which procedure might or might not be followed by abortion. My advice was finally accepted, and I hypnotized her. She went only into a superficial sleep, yet on awakening she could eat and retain a small amount of food. I hypnotized her once daily for three days. Of course, the usual dietetic measures were not neglected. During these three days she did not vomit. She ate fairly well, and began to feel stronger and be more cheerful. On the evening of the third day of my treatment a female relative came to see her, and expostulated with her concerning the treatment, saying that the doctrines of the Catholic Church were opposed to hypnotism and mesmerism, and that she would be excluded from confession if she were to continue. This threat naturally excited her greatly, and so preyed upon her mind that she began to vomit again. The husband went to her spiritual adviser, and he confirmed what her relative had said. I received notice to cease my treatment.

On the fifth day following I was called in again. The priest had been there that morning, had seen the continuous vomiting, the blood-shot eyes, the blood oozing from nose and mouth, and thereupon obtained a dispensation from the bishop of the diocese, so that the treatment could be recommenced. Hypnotic suggestion again stopped the vomiting immediately. For two days she enjoyed this tranquillity, when suddenly and spontaneously labor set in, and she was delivered of her child in a few hours. The suggestive treatment, now unnecessary, was stopped. During the puerperium it turned out that the catarrhal symptoms which she had manifested during pregnancy were but the forerunners of acute tuberculosis, which caused her death four weeks later. During this last sickness Dr. A. Jacoby was called in consultation, and it was his opinion that the vomiting was due to tuberculosis. Whatever its cause, the fact remains that the vomiting was cut short by suggestion, and, perhaps, if earlier resorted to for relief of the symptom, it would have prevented the tuberculosis making such headway.

CASE III.—Mrs. W., twenty years old, had already been relieved of a long-standing illness by hypnotic suggestion when she became pregnant for the first time. The first months of pregnancy passed off well; there was only occasional vomiting. In the fifth month, however, she began to reject all food. After suffering four days she sent for me. A single suggestion in deep hypnosis sufficed to change her condition. The vomiting ceased entirely.

The other two abnormalities of pregnancy, loss of appetite, and the craving for articles not to be regarded as food, can be readily relieved by suggestion, even though the hypnotic condition into which the patient is brought is not deep. I could support this assertion by illustrative cases, but shall abstain from doing so in order not to unduly prolong this paper. In labor, also, hypnotism can be used to advantage. I have not had the opportunity to use it in complicated cases, such as those requiring version or the use of the forceps. I do not doubt, however, that in patients belonging to the fifth class, to be mentioned below, suggestion may be successfully employed when operating, but in cases in which hypnotism may be used successfully, it has a decided advantage over chloroform, the disadvantages of which I need not here recount to you.

In studying the effects of suggestive therapeutics in normal labor we may divide the patients into five classes: The first class comprises the patients who cannot be hypnotized; the second class includes those patients who only sleep superficially, awakening at the very first pain, but with whom the suggestion has a decided post-hypnotic effect. To the third class belong the patients who sleep deeply, but in whom the sensation of pain overcomes the suggestion, so that when it becomes violent they wake up. There is amnesia for everything that happens intrahypnotically, as well as the post-hypnotic effect of the pain being much less than the circumstances would appear to warrant. In the fourth class we may place those who sleep very deeply. These do not wake up; the whole labor is conducted intrahypnotically. After awaking there is perfect amnesia. The fifth class comprises those patients with whom the post-hypnotic effect of suggestion is all-powerful, so that though labor is going on in a waking condition pain is absolutely not felt.

My experience is rather limited here. I have tried hypnotism in forty-six cases only. Nine patients could not be hypnotized at all, 11 slept superficially with post-hypnotic effect, 15 slept deep with intrahypnotic and post-hypnotic effect, 10 had a very deep sleep with perfect amnesia upon awakening, and 1 was awake but felt no pain at all. I may add that the twenty patients belonging to the first and second

class were mostly women of nervous temperament and such who were biased against hypnotic measures. Almost all of them expressed a fear lest something would befall them during sleep. I shall cite an illustrative case in each of the last four classes.

CASE IV.—Mrs. B. L., thirty years old, German, of nervous temperament, third pregnancy. Came to me at the middle of the eighth month of her pregnancy. She had heard of hypnotism, and said she would like to make use of it, as her two former confinements had caused her a great deal of suffering. I hypnotized her at once. She went into the second degree of Bernheim's classification, and I suggested to her that in her third confinement she would have no pain. Before her confinement I hypnotized her three times more. The sleep was never deeper than the second degree, and each time I renewed the suggestion of a painless confinement. March 14, 1895, at 8 P.M., she began to have labor pains. I hypnotized her once more, again only to the second degree, and suggested that the bearing down would increase every time, but that she would feel no pain. Though the contractions of the uterus came on with fair regularity, the patient experienced little or no pain, but woke up with the first stronger contraction. At 8.45 P.M. the os was dilated to the size of a silver dollar; at 9.30 the dilatation was of twice that size. From this time on the contractions were more frequent, coming on every three or four minutes. Each time she had some pain, but it was so moderate that she complained of labor progressing so slowly. Nevertheless, at 10.30 the os was entirely dilated and the membranes ruptured. Now came a lull for about ten minutes, after which the contractions came on again with increasing strength, and were accompanied by considerable pain until at a few minutes before 11 P.M., the child was born. She said that in comparison with her former confinements she did not suffer at all.

CASE V.—Mrs. Bertha H., twenty-eight years old, German, married ten years, third pregnancy, five years after the last; robust; had never been sick. Up to the time of labor I hypnotized her three times. She went into a deep sleep with amnesia upon awakening on suggestion only. She was, therefore, in the seventh degree of Bernheim's classification. June 9, 1895, 6 A.M., labor set in. I arrived an hour later and hypnotized her. The pain that had previously accompanied every contraction disappeared on suggestion. The contractions came on rather slowly, so that at 10 A.M. the os was dilated only to the size of a silver dollar; suggestion seemed to have but little influence on the intensity of the contractions, but she felt no pain. I then left her for about two hours and a half, returning at 12.30 P.M. The os was dilated to about twice its previous size, but the contractions had ceased about half an hour before. She seemed to sleep only superficially. I awoke her and hypnotized her again. She then slept more deeply. I suggested that the uterus would contract again more strongly in three minutes, and that at the time of bearing-down she would help along with the abdominal muscles. The suggestion was now successful. From this time on the contractions became regular, frequent, and strong, but still there was no pain. At 2 P.M. the os was entirely dilated and the membranes ruptured. A few minutes later, at the height of a contraction, she seemed to have great pain and woke up. I could not put her to sleep again. The bearing-down, now growing still stronger, was always accompanied by pain, but, curiously enough, not as great as that which awakened her. This could only be accounted for as being the post-hypnotic effect of the former suggestions. The expulsion of the child followed fifteen minutes later. She could not remember anything that happened up to the time of her awakening.

CASE VI.—Mrs. I. K., thirty-two years old, born in Hungary, fourth pregnancy. I had hypnotized her repeatedly before for another affection. She always went into the deepest sleep possible. I was called October 21, 1895, at 12 M. She had had some labor pains since morning. At 11 A.M. they had grown stronger, and she sent for me, but a short time before I arrived the pains ceased entirely. On my arrival I ascertained that the os had dilated to about an inch in diameter. I then hypnotized her. On suggestion, the contractions of the uterus began again and continued regularly as commanded. Drs. Morvay-Rottenberg, Sigismund Cohn, and Mandel, whom I had invited, were alternately present. This patient, although in deep sleep, seemed to have some pain with each contraction. She acted as if she suffered, but when asked if she did, said that she felt the bearing-down and had then an uncomfortable feeling, but no pain. She conversed cheerfully upon different topics, there being only a slight interruption in her speech, a twitch of the facial muscles, or sometimes a groan to tell me that the uterus was contracting and that she was helping it along. On inquiry she always denied having pain. At about 4 P.M. she complained of some pain in the right side, but gentle friction of the site made it disappear. About 4.50 P.M. the membranes ruptured, and a few minutes later the head came down to the perineum. The contractions now became so strong and the pressure so great that I had to suggest that they become weaker in order to preserve the perineum. The bearing-down immediately became less strong, though still sufficient to dilate the vulva. A little after 5 P.M. the child was born, and five minutes later the placenta came away spontaneously. After the patient had been washed and made comfortable I awoke her. She was astonished to find herself delivered, and although she had been told before awakening that she had given birth to a boy, she had to ascertain the sex of the child anew. There was perfect amnesia for everything that transpired since I had put her to sleep.

CASE VII.—Mrs. I. L., thirty-four years old, fifth pregnancy. I had delivered her hypnotically once before. Sleep was the deepest possible. I hypnotized her once in the sixth and once in the seventh month of her pregnancy, each time suggesting that she would feel no pain at all at her next con-

finement. I was called December 19, 1897, at 7 P.M. I invited Professor Henry J. Garrigues and Dr. Leon F. Garrigues to accompany me, they having expressed a desire to witness a confinement under such conditions. We arrived nearly an hour later, and learned that the child had been born and the placenta expelled rapidly about half an hour before the time of our arrival. Upon inquiry the mother told us that she had felt some movements in her abdomen during the morning. At the beginning she felt these movements only once in two or three hours, but later on more frequently; sometimes they resembled the usual movements of a child, and at others they were like the cramps occuring in connection with a slight attack of diarrhea from which she had been suffering during the previous two days. At no time did she have the slightest pain, and she had no idea that labor had set in. She felt well and walked around, performing her household duties. A little before 7 P.M. she felt a great weight and pressure about the vulva, and soon after a gush of a large quantity of water occurred. On mentioning this to her husband, quite an intelligent man, he recognized her condition and told her to lie down. He scarcely had time to call and send some one to telephone for me, when the head appeared, and the husband had to assist her in the delivery. He called in a woman from the neighboring room, and when she arrived the placenta was being expelled. Throughout all this no pain whatever was experienced, simply an uncomfortable feeling. The suggestion given two months previously had acted only too well, and I was sorry not to be able to give my colleagues an opportunity to witness the efficacy of suggestion in labor.

Summing up what these cases, and others of which I have record, show, we can deduce the following: (1) That, though the sleep be not deep, enough influence can be gained to moderate or entirely banish pain. (2) That in deep sleep we can not only stop the pain, but we can by suggestion intensify or weaken the uterine contractions. (3) We can thus avoid the use of forceps in many cases in which uterine contractions have ceased. (4) That the use of chloroform can be restricted to more complicated cases of labor.

The conditions of the puerperium which can be favorably influenced by suggestion are: After-pains, lactation, peristaltic movements of the bowels, puerperal paralysis, and puerperal mania. After what has been said above it is quite obvious that suggestion may moderate or abolish after-pains, the cause of which is simply the gradual contraction of the uterus in the process of involution. In nearly all my cases the after-pains yielded to one suggestion; in some it was necessary to repeat the suggestion two or three times before they ceased permanently.

It is a well-known fact that psychic disturbances will affect lactation. Anger, sorrow, fright, and worry will change the secretion of the milk not only in quality but also in quantity, even to the extent of suddenly drying up the breasts. On the other hand, easy circumstances and cheerful surroundings will affect lactation favorably. Hypnotic suggestion acting as strongly, or sometimes even stronger, than the natural emotions, it may be made use of either to increase or decrease the secretion of the milk. In Case VI. this was especially noticeable. On the ninth day after parturition the breasts became swollen, so that they felt painful, although the milk was oozing from them in sufficient quantity to wet the patient's clothing. One suggestion was sufficient to reduce the quality of milk to the normal. It seems that the suggestion acted too strongly, for after three weeks she sent for me in order to tell me that she had only scanty nutriment for her child. I hypnotized her, and suggested that the breasts would fill within half an hour, and the quantity of the milk would continue to be more abundant. I waited for the result. I could almost see the breasts filling, and at the end of half an hour the order was complied with. She never had any trouble with the breasts again.

The peristaltic action of the intestines can easily be influenced, and sleep is readily procured by means of suggestion. Puerperal paralysis, if not dependent on cerebral hemorrhage, albuminuria, or traumatism, is amenable to suggestive treatment. Van Renterghem, Grossman, aud Vogt mention numerous cases of puerperal paralysis cured by suggestion. I have had only one case in which a puerperal paralysis of three-weeks' standing readily yielded to suggestive therapeutics. Intellectual disturbances occurring during the puerperium, as well as those that appear during pregnancy, as melancholia and mania, have been successfully treated by means of hypnotic suggestion. Ladame and Dumontpallier report several rapid cures by this method.

Many have rebelled against the biblical dictum that bearing and bringing forth of children shall be painful. Chloroform has been used to evade the so-called natural law. If I have succeeded in swelling the ranks of the rebels by pointing out a less dangerous and more pleasant means of attaining that end I shall be quite satisfied.

The Sick at Siboney.—It has been found that the convalescents in the hospital at Siboney do not recover their strength permanently, and are very apt to fall victims to a second attack of fever. It has, therefore, been decided to remove the patients from the hospitals as rapidly as they become strong enough for transportation. Of the 488 patients in the Siboney hospital, 350 are said to be in a condition which enables them to be sent home.

TOBACCO INTOXICATION, LOCALLY AND SYSTEMICALLY CONSIDERED; REPORT OF A CASE OF TOBACCO AMBLYOPIA.

BY ALBERT B. HALE, M.D.,
OF CHICAGO.

IN studying the effects of tobacco I have found not only that one must consider its general irritating properties when absorbed, but that one must reckon with its local action when sufficiently long applied. Space forbids my discussing the physiologic or local effect of acute tobacco poisoning, such as is seen in children learning to smoke, or when chewing tobacco has been accidentally swallowed, or when a tobacco poultice has been too successfully applied; nor can I dwell on the more chronic disturbances produced on the heart or stomach by the tobacco habit. I prefer to speak entirely of its effect upon the eyes, either as a local irritant to the conjunctiva or as a systemic poison causing amblyopia or a demonstrable optic neuritis.

I can best illustrate both actions by reports of cases:

J. G., twenty-three years old; for three years has

FIG. 1.

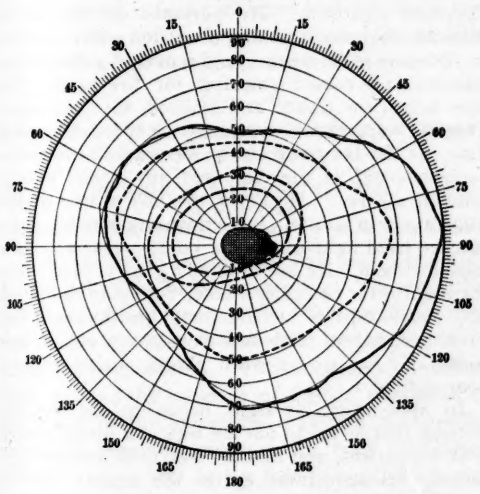
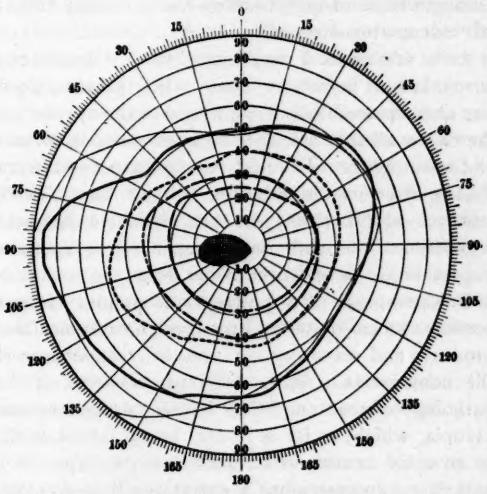


FIG. 2.



Solid line—Visual field. Line of dashes and dots—Field for red. Line of dashes—Field for green. Line of dots—Field for blue.

FIG. 3.

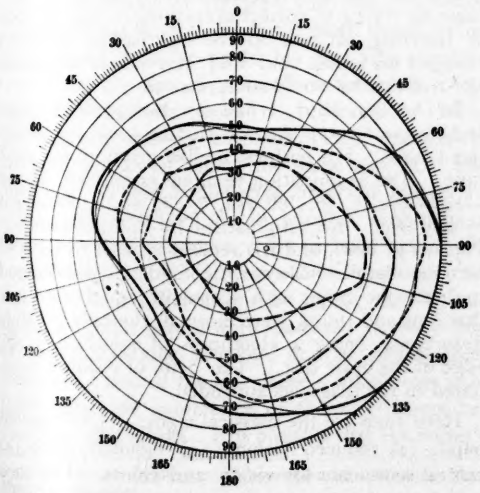
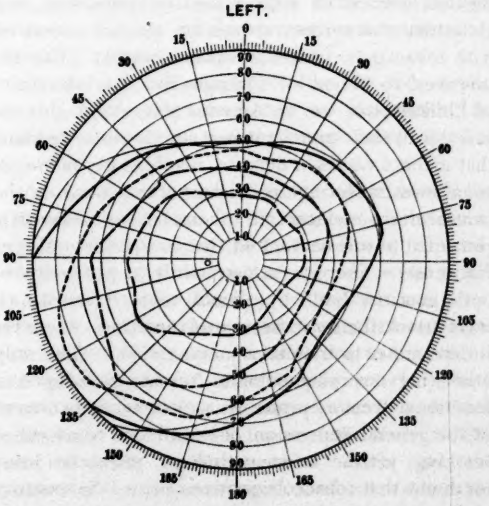


FIG. 4.



Solid line—Visual field. Line of dashes and dots—Field for red. Line of dashes—Field for green. Line of dots—Field for blue.

complained of redness of the eyes, with watering and itching. No refractive errors. General health good. Is occupied eight hours a day as a cigarmaker. On close examination the odor of tobacco was evident, while the dust could be seen on his clothing and in his hair. The conjunctivæ were red and injected, and there was constant lacrimation, not causing decided epiphora but enough to keep his eyes swimming in tears. I could not make a diagnosis of conjunctivitis, for there was no history leading to such an inflammation, nor were the physical signs present. It could be due to nothing but a constant irritation from the tobacco dust.

Such cases I can report by the dozen from dispensary and private practice, and my experience has been extensive enough to allow me to classify this as an "occupation disease."

As to treatment I need say little. Cleanliness, correction of refractive error when present, good air, and repeated bland washings of the eye during the day is all that can be done unless the patient will find other work. The best results have come from washes of boric-acid solution, two per cent., or of ichthyol solution, two per cent., or salve, frequent repetition of the medicine being, in my opinion, as important as the selection of the drug.

The pathology of this affection is simple. It is a continued local irritation by a foreign substance that produces and maintains an unhealthy hyperemia in the conjunctiva. Quite different, however, is the pathology of that condition known as tobacco amblyopia, which, as far as it can be explained at all, is an optic neuritis of a rather unique type. On pathologic grounds alone I was at one time skeptical about the distinctness of a tobacco neuritis. Many men even to-day, in Germany and England, deny the occurrence of such a tobacco poisoning, and claim that there must always be alcohol associated with tobacco in order to cause neuritis. Thanks, however, to Wood of Chicago and De Schweinitz of Philadelphia, we in America can avoid this error. Still their argument is a simple one; we know that alcohol causes a definite neuritis, peripheral in some cases, affecting more the nervous trunk or the central nervous system, in others, but not necessarily restricted to one nerve, and that too, a nerve of special sense. There is, consequently, a pure alcohol optic neuritis; but why should tobacco neuritis always attack the optic nerve and no other, whenever it determines to irritate a nerve trunk? The only other nervous phenomenon caused by tobacco is functional tremor, probably a mere accompaniment of the general depression of health due to excessive smoking, yet the latest pathologic researches leave no doubt that tobacco neuritis is a true inflammatory process.

Whatever may be the logic of pathology, experience and careful examination must displace theory, and I take this opportunity of narrating such a perfectly pure case of tobacco amblyopia, with cure, that my own skepticism is overcome, and I hope that it may be as instructive to others as to myself. Cases on the border-line are not hard to find; workers in tobacco often complain of poor vision, but in them the conjunctival irritation and the unhygienic surroundings are factors, while in almost all cases of such amblyopia in public and private practice there is a history of tobacco combined with alcohol.

Mr. W., aged fifty-eight years, merchant, never smoked until he was twenty-six, when he took to Egyptian cigarettes. He persisted in the use of these for six years, smoking about ten a day. After an illness of some weeks he discovered a dislike for tobacco and ceased smoking for five years. He then began on cigars and smoked for five years. Then he stopped for six years—to 1887. Since this time, for the last ten years, he has smoked constantly—cigars—and of late has used any brand handy, smoking all day. He never touched a drop of distilled liquor in his life. In Germany, twenty-five years ago, he tried light wines, but could never acquire a taste for them. He has ordered a glass of beer every few months for company's sake, but could not drink it. In all respects he is a very healthy man, free from bad habits, and active in every out-of-door sport. He has always worn glasses, being slightly near-sighted.

In May, 1897, his sight began to fail; he first noticed that he could not see well at a distance even with his glasses, and that he was criticised for neglecting his acquaintances on the street. He remarked that when he got close to a person and tried to look directly at a face it seemed dim and cloudy. An optician of whom he had bought glasses (and this is a good example of the mischief opticians may cause by trying to correct everything in sight instead of referring patients to the ophthalmic surgeon) changed his lenses, and told him it was increasing age and that he would soon recover!

In October, 1897, I first saw him professionally, and his great complaint was that he could not see to shoot birds! His business he had given up for some time. The examination resulted as follows: Vision—right eye, 6/36; left eye, 6/18; no improvement by any lens. No astigmatism by ophthalmometer. Pupils 1½ mm., and iris refused to react to light or accommodation. To see the fundus I was obliged to dilate the pupil with scopalein, and I then saw that lens and retina were normal, the only possible disturbance being a cloudiness of one-third of the edge of the optic disc. The field of vision is illustrated in the diagrams appended.

Here then are the classical signs: (1) contracted pupil; (2) reduced vision; (3) clouded disc; (4) central scotomata for vision and colors. I at once stopped the tobacco but made no other change.

Strychnin, beginning at $\frac{1}{60}$ of a grain hypodermically was given once a day, increasing daily by $\frac{1}{100}$ of a grain until $\frac{1}{4}$ of a grain a day was reached (even this produced no physiologic effects). On this dose he was kept for five weeks. Improvement began at once on cessation of the tobacco. On November 3rd, vision (with both eyes, and with a correcting sphere of —0.75D.) was 6/15; on November 10th, 6/9; on November 26th, 6/8; on December 21st, 6/5, and from this time on he could read and write continuously and with comfort. Since then he has retained perfect vision, can attend to his business, and can see to shoot ducks better than ever. The strychnin was stopped long ago and smoking not recommenced. I am convinced that this was a pure tobacco amblyopia—a toxic tobacco optic neuritis, and nothing will ever shake my conviction.

THE EFFECT PRODUCED UPON THE BLOOD BY VACCINATION.[1]

By JOHN S. BILLINGS, Jr., M.D.,
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Comparatively little work has been done upon the subject of the blood in vaccinia. The writer has failed to find any report of the effect produced upon the number of the red and white corpuscles of the blood by vaccination. Two observers, however, have reported the presence of foreign organisms in the blood in this condition. Pfeiffer, a somewhat unreliable observer, states in his book, published some years ago, that he has found unicellular bodies in the blood of cases of vaccinia and smallpox, and suggests these to be causally related to those diseases. Reed,[2] following Pfeiffer's observations, has studied the blood of children and monkeys before and after vaccination. He found small round bodies in the blood, from seven to ten days after vaccination, about the size of the small mononuclear leucocyte, but differing from it, however, in being granular and actively ameboid. Pale, transparent ameboid bodies of about the same size were also observed. These bodies were observed free in the plasma and were very few in number, specimens of blood being often examined for an hour before one could be found. Reed throws some doubt upon the value of these observations by stating that in one instance similar bodies were observed in the blood of an unvaccinated monkey, and he admits their presence in normal blood. Reed's article was published after the completion of the observations recorded in this report. It is possible that the writer's failure to find the bodies observed by Reed may be due to the fact that his observations of the blood were confined to the period preceding and up to the time of complete maturation of the vaccinia pustule. Reed states that the ameboid bodies noted by him are most plentiful at a later period.

The results of the examination of the blood in fourteen cases of vaccinia are here reported. Several more were examined, but only those cases are reported in which the vaccination was successful. Some of the patients were seen at the Dispensary of the Presbyterian Hospital, while the remainder were kindly sent by outside physicians. The examinations of the latter were for the most part made at their homes, some, however being brought regularly to the examiner's office. The technic was that described in the report of last year on the effect of diphtheria antitoxin upon the blood in diphtheria. At each examination fresh specimens were made and ringed with vaselin; the majority of these were very carefully examined for the bodies described by Pfeiffer and Reed, a mechanical stage being used. Dried and stained specimens (hematoxylin, safranin, etc.) were also examined to this end, but all such examinations were entirely negative. Nothing abnormal was noted; nothing even suggesting such bodies as have been described by those two observers was found.

The results of the examination of the blood in the fourteen cases will be found in the accompanying tables.

Red Corpuscles.—Vaccination seems to have no effect upon the number of red corpuscles. It is to be remembered that the limit of error with the Thoma-Zeiss hematometer is a comparatively large one, being at least 250,000 per c.cm. No changes in shape, size, or staining properties were noted in the dried and stained specimens.

Hemaglobin.—Hemaglobin, like the red corpuscles, is apparently unaffected by vaccination, no marked variation in the percentage being noted in any of the cases.

Leucocytes.—Vaccination produced a moderate but well-marked increase in the number of the leucocytes in thirteen out of the fourteen cases. In only one instance did the number of leucocytes reach 20,000 per c. mm. (Case 5). This case was interesting as showing the greatest systemic reaction to vaccination. This was probably due to the anemia and general lack of resisting power. It is well known that cases of acute suppuration in enfeebled individuals show higher leucocytosis than similar cases in strong healthy persons. As a rule, the number of leucocytes ranged at about 15,000 per c. mm. The rise took place gradually, an increase

[1] From the Bacteriological Laboratories of the New York Health Department.
[2] *Journal of Experimental Medicine*, p. 515, September, 1897.

No.	Age.	Sex.	Red Corpuscles.	White Corpuscles.	Proportions of Various Forms of White Corpuscles.					Remarks.
					Hemoglobin.	Polynuclear Neutrophiles.	Large Mononuclear Form.	Small Mononuclear Form.	Eosinophiles.	
					Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	
1	1 year 6 mos.	F.	5,830,000	9,300	98	74	6	18	2	Well nourished. Healthy.
			Vaccinated.							
			5,910,000	9,800	98	73	5	20	2	Arm was red and tender on the second day. Pustule reached its height on the eighth day.
			6,020,000	8,300	95	70	8	21	1	
			5,731,000	11,600	99	72	7	19	2	
			5,986,000	13,100	98	77	6	14	3	
			5,880,000	10,800	96	..	..	..	..	
			6,310,000	15,600	96	..	..	..	..	
			5,821,000	14,700	99	76	10	13	1	
			5,752,000	16,100	100	..	..	..	..	
			5,981,000	13,300	97	..	..	..	..	
			6,183,000	8,800	98	69	8	22	1	
			5,875,000	10,500	99	..	..	..	..	
2	2 years 4 mos.	M.	5,111,000	8,600	89	68	4	27	1	Sparely nourished, but healthy child. Slightly anemic. No redness until third day. Pustule reached its maximum on the seventh day.
			Vaccinated.							
			5,361,000	8,500	91	70	6	21	3	
			5,287,000	7,300	88	..	..	..	..	
			4,961,000	9,400	89	71	5	20	4	
			5,387,000	13,400	88	..	..	..	..	
			4,720,000	14,200	92	74	8	16	2	
			4,985,000	13,900	90	..	..	..	..	
			5,008,000	16,900	61	73	6	18	3	
			4,771,000	6,300	88	..	..	..	..	
			4,864,000	10,100	88	70	6	21	3	
3	2 years.	M.	6,281,000	8,600	101	78	11	10	1	Large robust child. Redness and tenderness of arm on second day. Maximum on sixth day.
			Vaccinated.							
			6,103,000	6,400	98	..	..	..	..	
			6,489,000	7,300	100	..	..	..	..	
			6,063,000	10,200	94	..	..	..	..	
			6,392,000	11,100	96	79	3	16	2	
			6,061,000	8,800	98	73	6	20	1	
4	6 years.	F.	5,332,000	6,300	95	81	7	19	2	Fairly nourished child. Redness of arm in thirty-six hours. Maximum about seven days. Pustule small.
			Vaccinated.							
			5,188,000	9,600	94	..	..	..	..	
			5,672,000	12,800	93	..	..	..	..	
			5,001,000	11,600	96	79	2	18	1	
			5,339,000	12,400	98	75	4	18	3	
5	1 year.	F.	4,062,000	10,200	78	65	5	28	2	Very poorly nourished, anemic child. Redness in twenty-four hours (?). Large pustule. Maximum on eighth day.
			Vaccinated.							
			3,816,000	14,600	79	..	..	..	..	
			3,734,000	18,700	76	..	..	..	..	
			3,962,000	19,200	73	78	6	13	3	
			3,661,000	21,600	79	81	4	14	1	
			3,983,000	13,300	80	76	7	15	2	
6	1 year 9 mos.	F.	5,381,000	9,600	93	73	9	14	4	Fairly nourished child. Redness on second day, and maximum on seventh day.
			Vaccinated.							
			5,196,000	8,400	95	..	..	..	..	
			5,022,000	7,200	94	76	6	13	5	
			5,556,000	9,900	95	..	..	..	..	
			5,061,000	6,300	92	78	8	8	6	
7	3 years.	M.	4,996,000	9,700	98	69	3	27	1	Fairly nourished. Redness on third day, maximum of pustule eighth day.
			Vaccinated.							
			5,376,000	13,200	95	68	11	20	1	
			5,088,000	11,600	96	..	..	..	..	
8	2 years.	F.	5,819,000	7,900	98	73	8	17	2	Well-nourished child. Redness in thirty-six hours. Maximum of pustule on eighth day.
			Vaccinated.							
			5,826,000	12,800	96	76	12	10	2	
			5,973,000	8,200	97	70	9	20	1	
9	1 year.	M.	5,006,000	10,300	90	61	13	23	3	Rather poorly nourished child. Redness on third day. Maximum of pustule on seventh day.
			Vaccinated.							
			5,317,000	8,600	89	..	..	..	..	
			4,981,000	15,000	92	70	10	19	1	
			5,169,000	9,700	92	65	10	22	3	
10	9 months.	F.	6,810,000	10,600	100	78	3	17	2	Stout, healthy baby. Redness on second day. Maximum of pustule on sixth day.
			Vaccinated.							
			6,971,000	15,300	101	..	..	..	..	
			6,562,000	18,700	99	83	2	15	0	
			6,666,000	9,400	99	80	6	12	2	

No.	Age.	Sex.	Red Corpuscles.	White Corpuscles.	Proportions of Various Forms of White Corpuscles.					Remarks.
					Hemoglobin.	Polynuclear Neutrophiles.	Large Mononuclear Form.	Small Mononuclear Form.	Eosinophiles.	
					Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	
11	1 year 2 mos.	F.	5,738,000 Vaccinated.	8,200	99	83	6	20	1	Well-nourished child. Redness on second day. Maximum of pustule on sixth day.
			5,687,000	11,300	97	81	9	19	1	
			5,431,000	6,100	98	76	10	13	1	
12	2 years.	M.	6,037,000 Vaccinated.	5,400	92	78	8	12	2	Rather poorly nourished child. Redness on third day. Maximum of pustule on eighth day.
			6,002,000	12,800	92	81	6	12	1	
			5,893,000	7,300	92	71	9	17	3	
13	1 year 6 mos.	F.	5,861,000 Vaccinated.	8,100	90	70	9	16	5	Fairly nourished child. Redness on second day. Maximum of pustule on sixth day.
			5,577,000	13,300	89	73	8	15	4	
			5,601,000	12,900	93	63	12	19	6	
14	8 months.	M.	6,372,000 Vaccinated.	7,300	96	71	5	23	1	Well-nourished child. Redness on third day. Maximum of pustule on ninth day.
			6,088,000	10,600	95	..	..	..	..	
			6,231,000	14,100	94	70	4	25	1	
			6,383,000	15,100	98	74	8	16	2	
			6,164,000	9,400	98	61	3	35	1	

to a point above the normal being usually first noted on the day on which the arm began to be red and tender at the point of inoculation. From this on the number of leucocytes slowly increased, reaching its maximum at about the same time as the pustule at the point of inoculation (sixth to eighth day), and falling again to normal by lysis, taking two to four days to do so.

In cases 1 and 2 the blood was examined within an hour after vaccination, in order to determine whether any preliminary decrease in the number of the leucocytes took place (leucocytolysis). None was noted, but a series of observations would be necessary to determine this point. It is unlikely that any leucocytolysis does occur, the effect of vaccination upon the system being so gradual that the usual driving off of the leucocytes into the capillaries does not occur. This view is confirmed by the experiments of Goldscheider and Jacob, who found that small quantities of bacterial toxins injected at intervals did not bring about a leucocytolysis. No changes in the morphology of the leucocytes were noted in the stained specimens. Differential counts of the various forms of leucocytes showed the increase to be in the so-called polynuclear neutrophiles, so that the leucocytosis occurring in vaccinia is one of the so-called inflammatory or pure leucocytoses, such as occur in pneumonia, suppuration, etc. Considering what a local process vaccination is, we must consider an increase in the number of the leucocytes to 15,000 per c. mm. relatively high. A local staphylococcus infection of the same extent would not give rise to such marked increase in their number.

Conclusions.—1. A moderate, but well-marked leucocytosis occurs in vaccination. It is a simple inflammatory leucocytosis, its maximum coinciding with the height of maturation of the vaccinia pustule.

2. Vaccination has no effect upon the number of red corpuscles, nor upon the percentage of hemoglobin.

3. These observations furnish no proof of the occurrence of the bodies found by other observers, and supposed by them to be causally related to vaccinia and variola.

CLINICAL MEMORANDA.

SOME UNUSUAL TUMORS OF THE ORBIT AND VICINITY.[1]

BY CHARLES STEDMAN BULL, M.D.,
OF NEW YORK.

CASE I. *Cysticercus Cyst of the Lower Lid.*—The patient was a boy, aged six years, born in New York of Italian parents, and was first seen by me at the Eye Infirmary on February 14, 1897. There was a small tumor in the subcutaneous cellular tissue, just below the lower lid on the right side, about the size of a small filbert. The skin was of normal appearance and freely movable over the tumor. The latter was smooth, non-lobulated, painless, and elastic, and looked like an ordinary fatty tumor, which was the diagnosis made. The eyes were healthy, and there was no other abnormality about the child. The tumor had been noticed about three months and had never occasioned any inconvenience, It was removed without the slightest difficulty by an incision about half an inch long, and was shelled out of its bed like a pea out of its

[1] Read at the Thirty-fourth Annual Meeting of the American Ophthalmological Society, held at New London, Conn., July 20 and 21, 1898.

pod. Two stitches closed the wound, which healed completely in twenty-four hours. The entire interest of the case centers in the microscopic examination, kindly made for me by Dr. Dixon, one of the pathologists to the Infirmary, who reports as follows:

At first glance the tumor appeared to be an echinococcus cyst, but more prolonged and careful study gave evidence in favor of its being a cysticercus cyst. The scolex was single. The hooklets were perfectly formed, and corresponded in size and number more nearly to cysticercus cellulosæ. The suction discs were more prominent than is usual in echinococcus. The original diagnosis of echinococcus was based more particularly on the character of the lining membrane of the cyst, which suggested the formation of daughter cysts. Owing to the confusion which exists among helminthologists as to the early cysticercus stages of both tænia solium and tænia echinococcus, it is difficult sometimes to reach a definite conclusion.

CASE II. *Fibrolipoma of the Accessory Lacrimal Gland.*—The patient was a boy, aged six years, whom I first saw at the Eye Infirmary on October 13, 1897. The father, who came with the patient, stated that he had first noticed a small lump on the outside of the eye near the external angle, eighteen months before, and another small lump on the corneal margin downward and inward. The first lump slowly increased in size and extended backward along the eyeball. On examination the latter was seen to hug the left eye closely in the superotemporal region, was about as large as a lima bean, flattened and colorless. The small growth on the corneal margin closely resembled an ordinary dermoid tumor, and a diagnosis was therefore made of dermoid tumor of the eyeball and orbit. The eye was normal in every respect. The tumor on the temporal aspect of the globe was removed through a conjunctival incision without much difficulty, the conjunctiva being carefully dissected away from it. The only firm point of adhesion found was at the upper and outer angle of the orbit. The cavity left by its removal was then carefully washed out and examined, but nothing abnormal was found. The conjunctiva was then carefully brought over the exposed sclera, and the wound closed by three sutures. The wound healed promptly, and the patient was discharged on the fourth day.

The tumor was examined by Dr. Weeks, the pathologist of the Infirmary, who reported that it was a fibrolipoma of the accessory lacrimal gland.

CASE III. *Dermoid Tumor of the Eyeball Complicated by a Malignant Intra-ocular Growth.*—The patient was a female infant who, when first seen, January 18, 1897, was one month old, and according to the mother's statement, was born with the existing condition of the eye. It was the mother's first confinement, and the labor was natural. The inner half of the cornea of the right eye was opaque and thickened. There was a small dermoid tumor of the eyeball in the inferotemporal quadrant, from which grew several hairs. The lower conjunctival cul-de-sac and the inner end of the lower lid were densely infiltrated, very pale, and felt like brawn. The appearance was that of a myeloid infiltration. The lens was clear and the visible portion of the fundus looked normal. The iris was dilated and did not react to light. There was neither conjunctival nor ciliary injection, nor any sign of irritation or pain, and the child seemed in excellent physical condition. Between January 18th and March 10th, there was a considerable increase in the size of the apparent dermoid tumor, and on the latter date an intra-ocular growth was made out downward and inward. By the end of March two apparent staphylomata appeared in the equatorial region, one inward and one directly downward, over which the sclera was very thin. At this time the anterior chamber was abolished, the iris lying directly against the cornea. Tension was +1, but there were no signs of irritation. The parents were advised to have the eye enucleated but refused the operation. The left eye remained healthy throughout the entire period of observation. The child remained well all through the summer of 1897, but in November the appearance of the eye had very much altered. The staphylomatous protrusions were now enormous and seemed on the point of rupture. The pupil was blocked by the intra-ocular growth, and the tension had still further increased. Sometime in December the inferior protrusion ruptured, and a mass of pigmented material protruded. A portion of this was excised and examined microscopically. It proved to consist mainly of numerous small round cells, with short fusiform cells and finely granular matter, with a few blood-vessels, the wall of the latter being made up of a single layer of endothelial cells. The outer half of the cornea still remained transparent, and there was no change in the appearance of the small, extra-ocular dermoid growth. The child was seen again in January, 1898, and although pale and anemic, seemed well. The protrusion of the intra-ocular growth had increased, and the whole globe seemed more prominent. Since then the child has not been seen.

CASE IV. *Tubercle of the Eyeball.*—The patient was a female child, aged three years, who was first seen at the Eye Infirmary on February 24, 1896. There was almost no history, and the only fact elicited from the parents was that the left eye had been red and inflamed more or less constantly for about a year. The mother was a robust Italian woman, but the father was undersized, thin, and sickly in appearance. The child was the youngest of five, all the others being apparently healthy. The patient had always been delicate, had some bowel trouble as a young infant, which lasted a long time, and has from time to time returned. The child has never walked, and speaks very little and unintelligibly; lies in a semi-stupor but can easily be roused, and frets very little. There was marked conjunctival and ciliary injection, and considerable chemosis of the ocular conjunctiva, but no swelling of the lids. The cornea was slightly hazy, but the lens and vitreous were clear. There was a yellowish reflex from the fundus, which had been noticed for several weeks. There was a staphylomatous projection in the ciliary region, and another in the equatorial region on the nasal side. The eye was divergent, apparently entirely blind, and the tension was —2. The right eye was healthy. A diagnosis was at first made of glioma retinæ, and the parents were told that the eye must be enucleated at once. The marked

marasmic condition of the patient aroused the suspicions of possible tuberculosis, and this was rather confirmed by the appearance of the father, and by the fact that two members of his family had died of chronic pulmonary trouble, presumably tuberculosis. The father had at times a chronic cough with profuse expectoration.

The eye was enucleated on March 11th, and the child recovered promptly. The specimen was examined by Dr. Weeks, the pathologist of the Infirmary, who reported as follows: The globe measured 23.5 mm. in anteroposterior diameter, 24 mm. in transverse diameter, and 23 mm. in vertical diameter. The cornea measured 10 mm. vertically and 11 mm. transversely. The globe was of irregular shape with marked protrusion on the nasal side anterior to the equator, and 4 mm. from the corneal margin. The cornea was of normal thickness and extent. The sclera was apparently ruptured at the site above described. The anterior chamber was filled with blood-clot and exudation. The iris was thickened and adherent to the lens capsule, and a portion was apparently absent. The lens was of normal size. The retina was detached and disorganized. The choroid was greatly thickened, and only traceable over part of its extent. The interior of the vitreous chamber was occupied by a relatively firm grayish mass. Microscopically, the cornea was infiltrated with small cells. In the sclera the connective-tissue bundles were separated by an infiltration of small cells. At the region corresponding with the staphylomatous protrusion the sclera was wanting. The anterior chamber was filled with old blood-clots and blood-pigment, partly broken down blood-corpuscles and fibrinous masses. It was densely infiltrated with small cells, and covered by an inflammatory pseudomembrane on both surfaces. The lens was intact. The retina was completely disorganized. The choroid and ciliary body were greatly thickened by the presence of a large number of small cells resembling leucocytes. A few of the large vessels could still be recognized. In some parts of the eye all traces of the choroid had disappeared. The mass of tissue which filled the vitreous chamber and protruded through the opening in the sclera was composed largely of leucocytes, short fusiform cells, granular detritus, and giant cells. Nodular masses were scattered here and there throughout this tissue, which had the structure of tubercle, the cells being more or less concentrically arranged at the periphery; giant cells were present, and there was some granular detritus at the center of the nodules. There were but few blood-vessels. No tubercle bacilli were found, but nevertheless the new formed tissue was in all probability tuberculous.

The patient remained in about the same condition for four or five months, and then died of what was said to be abdominal tuberculosis.

CASE V. *Sarcoma of Eyelids, Orbit, Cranial Bones, and Neighboring Cavities of Traumatic Origin.*—The patient was brought to me from a distant city, and the case is interesting because of its rarity. The patient was a boy, aged three years, whom I first saw on November 1, 1896. The parents stated that the child had always enjoyed robust health, and as yet had had none of the usual illnesses of childhood. In the preceding June (1896), while playing about the yard, he had run against a gate-post and struck the left side of his face and left eye a violent blow. There was no laceration of the skin, but extensive bruising and subconjunctival ecchymosis. The eye remained red and inflamed for about two weeks, and then slowly grew better, and nothing abnormal was noticed in the child's appearance until the last of September, more than three months after the accident. Then the eye began to protrude and became limited in motility, and the lids seemed stiff and could not be closed over the globe. When I saw the child, the exophthalmus was very marked, the protrusion being forward and outward, and the eye was almost immovable. The lids only partially covered the globe, but presented nothing abnormal. A distinct tumor could be felt on the nasal side of the orbit, as far back as the finger could reach. The media were clear and the iris reacted promptly to light, but the ophthalmoscope showed a papillitis with hemorrhages.

The parents were told that there was a tumor in the orbit, that the case was very grave, and that the eye and contents of the orbit should be removed at once. After consultation they consented to the operation, and the eye was enucleated. A growth was found filling the entire apex of the orbit, and extending along the roof and inner wall. The entire contents of the orbit, including the lacrimal gland and periosteum, were carefully and thoroughly removed, and as there was very free oozing from the bone, the orbit was tamponed with aseptic styptic cotton. The child recovered promptly from the operation, and was sent home in two weeks. Early in January, 1897, the growth returned on the inner wall of the orbit, and on the 14th a second operation was performed on the orbit and all the apparent diseased tissue was removed. At that time the neighboring cavities did not seem to be involved, and the apex of the orbit looked healthy. The child did very well for nearly two months, and then the disease again showed itself in the apex of the orbit, and the lids became infiltrated and swollen. By the middle of April the entire orbit was filled, both lids were enormously swollen and densely infiltrated, the infiltration extending in a nodular manner upon the forehead and down upon the cheek. I declined further operative interference, not only because of the rapid extension of the growth, but also because the child showed a decidedly cachectic appearance, and was much emaciated. The little patient lived until the end of July and died apparently from exhaustion, there being no head symptoms up to the end of life.

These cases of malignant disease of the orbit and bones in children, apparently originating in traumatism, are not common. The eyeball, on microscopic examination, showed the usual signs of a papillitis, but there was no trace of malignant disease found anywhere in the globe or optic nerve. The tumor of the orbit was a myxosarcoma, the bulk of the growth consisting of small, round cells, while the lids and nodules on the forehead and cheek, examined after death, proved to be sarcoma of the small-cell variety. At the autopsy the growth was found in the ethmoid cells, the sphenoid antrum, the sphenoidal and sphenopallatine fissures, and the upper nasal meatus, and the temporal and frontal bones.

REPORT OF THREE CASES OF STONE IN THE KIDNEY.[1]

BY J. J. BUCHANAN, M.D.,
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RENAL-COLIC, bloody urine, and tenderness over the kidney are so uniformly present in cases of nephrolithiasis that one is apt to forget that renal stones exist when one, two, or even all three of these significant symptoms are lacking. The three cases here recorded illustrate this fact in varying degrees, and show that in many obscure cases the presence of kidney-stone cannot be easily excluded.

CASE I.—The patient, a man aged thirty-eight years, had enjoyed perfect health up to September 11, 1897. In particular, he had never had any trouble with his urinary organs. When he went to his work on the evening of that day he was in his usual good health. At twenty minutes past eight o'clock he was suddenly seized with vomiting and abdominal cramps, and returned to his home, where domestic remedies were applied throughout the night without effect. In the morning he summoned Dr. T. T. Kirk, his family physician, who controlled the colic with opiates, but was unable to demonstrate any abnormality by physical examination. In a few days the pain ceased but the man's temperature continued high for a week. Vomiting was present for several days. For nearly six weeks the patient was confined to bed with variable fever and constipated bowels. During this period there was no derangement of the urinary functions. On the 23rd of October he was again seized with colicky pains and his thighs were flexed on his abdomen, especially the left one. He again had fever but no vomiting. This time his urine became scanty and high colored. An enlargement was now observed in the left iliac region, beginning at the fold of the groin and increasing upward until it finally filled the left half of the abdomen. It extended from the diaphragm to Poupart's ligament.

On November 10th I saw him in consultation with Dr. Kirk. He was extremely emaciated. He had no fever. His pulse was rapid and feeble. His left thigh was flexed and the left side of his abdomen was filled by the tense, elastic mass above described. Passing perpendicularly downward in front of this mass the descending colon could be demonstrated by percussion and sometimes even by sight and touch. On November 13th at Mercy Hospital, I opened his abdomen parallel to and above the crest of the ilium. Owing to his feeble condition, the incision was made without the use of anesthesia. The cyst being exposed the incision was packed with gauze to secure an extraperitoneal evacuation. Two days later the cyst was opened with the knife and a very large quantity of clear urine evacuated. A glass drain was inserted. The man's general condition improved at once, the cyst collapsed, and one-half his urine drained through the tube. Within a few days a calculus could be felt with a probe, but repeated efforts to seize it with forceps were fruitless. Endoscopic examinations of the interior of the pelvis of the kidney were repeatedly made and satisfactory views obtained, but the ureteral orifice, containing the stone, could not be brought into the field, apparently owing to the interference of the crest of the ilium with the endoscopic tubes.

This method of locating an obstructing stone in the upper ureteral orifice to my knowledge had not been tried before, and although it was not successful in this case, it would seem to be worthy of further trials with a more favorably placed incision. Imperfect drainage and repeated manipulations caused decomposition of the urine in the sac and elevation of temperature. It was now decided to perform median celiotomy and endeavor to extract the stone from the ureter across the peritoneal cavity. Under chloroform anesthesia a median incision was made and the course of the ureter examined, in an unsuccessful effort to find the stone. Failing in this, the stone was located by forceps passed into the dilated pelvis, and bimanual efforts at its extraction made. With the left hand in the abdominal cavity and the right hand manipulating the forceps in the dilated renal pelvis the stone could be seized but not extracted, for it was grasped through the walls of the ureter and the pelvis of the kidney. Pieces of mucous membrane were repeatedly torn away, but it at length became evident that to extract the stone at any hazard would probably result in making a hole in the pelvis of the kidney and destroying the renal end of the ureter, with perhaps infiltration of urine behind the peritoneum or loss of the ureteral function. Attempts were then made to crush the stone *in situ*, which the sequel showed were successful. The celiotomy wound was closed without drainage by my assistant, Dr. Hays. Eight days later the patient had an attack of renal colic, with severe vomiting and pulse of 136. The vomiting became fecal and almost total suppression of urine occurred. His stomach was irrigated and he was given a hot-air bath. He perspired freely, his vomiting ceased, and his urine began to flow. The discharge of urine from the fistula notably diminished and an injection of methyl blue into the pelvis of the left kidney promptly stained the urine from the bladder and showed that the left ureter was again pervious. Symptoms pointing to the presence of a small stone in the bladder soon showed themselves, and later, symptoms of its passage *per urethram*. Owing to lack of observation the fragments of stone were not recovered. Four weeks from the date of the last operation the patient left the hospital convalescent, weighing 80 pounds. He is now in good health and weighs 151 pounds.

CASE II.—The patient was a boy, aged eighteen years. He never was robust; had typhoid fever four years ago. No other serious illness. The present trouble began in February, 1897. At that time, while at school, he noticed a slight, dull pain in the left loin, which in a few days was followed by a swelling in the same place. Four or five weeks later his medical attendant, Dr. Kerr of Oakdale, opened the abscess below the twelfth rib and evacuated about half a pint of pus. After the opening of this abscess his condition improved and the pain ceased and never returned.

A fistula persisted and he was sent to me for opera-

[1] Read before the Allegheny County Medical Society.

tion. The kidney was found to be very greatly enlarged and a probe which was passed through the fistula easily discovered a stone. The urine was normal in all respects. On January 18th I enlarged the opening and extracted a stone of considerable size. Two weeks later the incision was dilated with the finger and other stones extracted and the walls of several abscesses broken through. The kidney would have been removed at this second operation had the patient's condition permitted.

On February 16th the kidney was removed through the loin by an incision parallel to the last rib and extending well forward on account of the great enlargement of the organ. The operation was very difficult by reason of the universal adhesions of almost cartilaginous consistency. The kidney could not be delivered entire owing to its bulk preventing the freeing of its anterior and inner attachments. The mass was made up of a large number of abscess cavities, the largest of which were evacuated to reduce the size. Even then the mass was so large that the kidney was removed in several parts. The ureter was narrow, empty, and normal. Owing to the matting of the capsule to neighboring parts it was impossible to make a pedicle of the vessels, and, as the mass was removed, they were torn across, but fortunately, were seized with large clamp-forceps with no great loss of blood. Seven forceps were left on the vessels and the enormous cavity packed with gauze. On the fourth day the forceps were removed. Recovery was uninterrupted and the cavity remaining is no larger than a lemon. In the pelvis of the kidney removed was a large branching calculus. The existence of such a severe condition without pain, fever, hematuria or pyuria is worthy of note.

CASE III.—The patient in this instance was a man about thirty-five years of age. He enjoyed perfectly good health until about one year ago when he began to experience a dull aching in his right loin, at times extending to the testicle and down the thigh. In July, 1897, he passed a small quantity of blood in his urine. He never had renal colic. He was attended by many physicians and finally consulted Dr. N. R. Graham of Sharpsburg who made a diagnosis of stone in the kidney and referred him to me for operation. The opinion was based on the persistent dull lumbar pain and the fact that blood had been passed on one occasion.

On examination no enlargement or tenderness whatever could be discovered. There was no rigidity of the lumbar muscles. The patient was well nourished but had been unable to work for some months on account of pain. Microscopic examination of the urine showed blood-discs and pus-corpuscles. On January 6, 1898, the kidney was exposed through the usual lumbar incision and freed from its fatty capsule. It was brought into the external wound and almost its entire surface was examined by palpation and compression between thumb and finger. An indistinct resistance was felt near the pelvis. The kidney was held in the wound and an incision made from its convexity through the renal substance into the pelvis where the stone had been located. A finger passed into the pelvis through this wound encountered the stone, which was easily extracted with slender lithotomy forceps. It was flattened in shape, 5-8 of an inch in diameter, and about half as thick. A strand of gauze was packed lightly into the kidney and brought through the external wound. Hemorrhage was insignificant. The wound was closed with a single tier of silkworm-gut sutures. The wound remained aseptic, and at the expiration of four days the strand of gauze was gently removed. A smart oozing of blood followed and within an hour the loin was bulging and the patient exhibiting signs of hemorrhage. He was taken to the operating-room and chloroformed. All the stitches were taken out and the original wound laid completely open and a large quantity of clots and liquid blood removed. A Mikulicz packing was inserted and there was no more bleeding then or thereafter. The packed wound remained aseptic and the convalescence was uninterrupted. The patient is now well and has had none of the old pain since operation.

The kidney wound was not sutured primarily on account of the pus found in the urine. In a similar case this would be disregarded. Direct palpation of all surfaces of the kidney and examination by compression with the fingers is regarded as much more satisfactory than needling.

MEDICAL PROGRESS.

Enteritis with Perforation Due to the Bacillus Coli Communis.—SNELL (*Lancet*, July 30, 1898) gives an account of a case of enteric fever lasting six weeks and terminating in death, which proved a diagnostic puzzle during life and not less so at the post-mortem table, and the nature of which was not cleared up until the bacterial examination of the splenic pulp showed that it contained unmixed colonies of the bacillus coli communis. The patient was a man of good habits, aged forty-five years, who was taken sick April 20, 1898, with a sharp attack of diarrhea. He had not been feeling well for some days previously. There was malaise and slight headache, and the skin had a yellow tinge, though there was no jaundice and no fever. The tongue had a white coat. The urine was normal. May 4th there was a little fever, and this increased during the next three days until it reached 103.6° F., the highest point touched during the whole illness. It fell twice to normal, but usually ranged irregularly from 99° to 101° F. The pulse varied from 65, the normal rate for this patient in health, to 80, changing suddenly from time to time from no apparent cause. The stools were at first slate-colored and partly formed, but later in the illness they become soft and chocolate colored.

The best physicians who saw the patient gave it as their opinion that the disease was not typhoid fever, and the absolutely negative results of the serum-test supported their statement. The prognosis was considered good, as the patient was almost without symptoms, the rapid pulse alone indicating danger. This increased in the fifth week of the illness to 100, and in the sixth week to 120, and in the seventh week, that in which he died, to 140. It was at all times subject to sudden variations

in its rate without apparent reason. Toward the end of the illness there was occasionally a little pain and stiffness in the muscles of the neck and limbs, and pressure in the right iliac region was slightly painful. Three days before his death the patient's mind began to wander, and he rapidly passed into a typhoid condition.

Upon opening the abdomen, twenty hours after death, there was found to be present a purulent peritonitis, starting from three small perforations in the small intestine, twelve to sixteen inches above the ileocecal valve. The floor of other ulcers in the same region was so thin that two more perforations occurred while the intestine was being removed. The whole small intestine, with the exception of the last three feet, appeared normal. In this lower part the whole thickness of the gut was swollen, soft, and pliable, being in places almost necrotic. The lymphoid tissue was especially swollen, and the ulcers, ten of which were present, seem to start therein, but to involve, in most instances, the muscular tissue as well, and to spread laterally rather than longitudinally. The mucous membrane of the large intestine was swollen along its entire length, and was more friable than usual, but there were no ulcerations present. The mesenteric glands of the affected ileum were greatly swollen, but the other mesenteric glands were normal. The spleen was little if any larger than normal. It was rather soft. Cultures and inoculation tests made from the pulp of the spleen all developed colonies of the bacillus coli communis, and of no other bacteria, showing that this germ was present in the spleen in a pure state.

Dislocation of the Testis.—KEITH (*Brit. Med. Jour.*, July 2, 1898) had a patient who was run over by a cart, the wheel passing from his left foot upward to the right anterior superior iliac spine. There was no fracture of any bone, but the scrotum was much bruised and swollen, and the right testicle could not be found. The following day, when the swelling had somewhat subsided, a hard mass could be made out just over Poupart's ligament on the right side, pressure upon which produced the testicular sensation. Gentle manipulation on several occasions failed to replace the dislocated organ, and an operation was performed for its return four weeks after the accident. The testicle was found lying in its tunica vaginalis, underneath the deep layer of superficial fascia, partly over the external abdominal ring, and partly in a rent in the external oblique tendon just above Poupart's ligament. The empty scrotum contained the remains of a small hematocele. This was scraped away, and the epididymis was carefully sutured to the lower portion of the scrotum. A small drain was placed in the lower angle of the wound, which was elsewhere closed by buried sutures. The patient made an excellent recovery, and apparently the testicle was in no wise damaged by the retention for four weeks in an abnormal position.

Fatal Fat Embolism from the Breaking of Adhesions.—PAYR (*Munchen. Med. Wochenschr.*, July 12, 1898) mentions the death of a girl aged sixteen years who took ether in order to have adhesions in the right knee broken up. This was accomplished without difficulty, very little force being required, but the patient died the next day with symptoms of collapse and pulmonary dyspnea. At the autopsy the finer bronchi were found to contain a bloody, frothy fluid, and when the pulmonary tissue was examined microscopically, it was seen that the blood-vessels, including the finer arterioles and veins as well as the capillaries, were distended with embolic drops of oil. Drops of the same nature were also found in the right popliteal and iliac veins, and in the vena cava.

There have been several instances reported in which fat embolism has followed operations upon bones, but Payr could find only four cases in medical literature, of embolism following the breaking up of adhesions in joints and these were all like his own, the result of the breaking up of adhesions in the knee-joint. As the thymus gland was abnormally large in some of these patients, as well as in some who have died from fat embolism, after fractures, the question comes up for answer, whether there is any connection between the status thymicus, and the occurrence of fat drops in the blood. Payr advances the hypothesis, that inasmuch as the lymphatics are enlarged in the status thymicus, and as they may readily carry fat drops, that there is probably a causal relation between these two conditions. It must in any event be admitted that the breaking up of adhesions in patients whose bones have been rarefied and filled with fat by a long illness, is by no means a trivial undertaking; and that one ought to be especially careful in such operative attempts upon patients having the status thymicus.

THERAPEUTIC NOTES.

Cannabis Indica in Pelvic Diseases.—LABADIE-LAGRAVE and LEGUEU (*Rev. de Therapeut.*, July 1, 1898) extol the use of cannabis indica in pelvic troubles in which a soothing remedy is required. It may be used with belladonna for this purpose. Given by the rectum these medicines act promptly, and so far from having a constipating affect, they rather favor a stool. In painful disorders of the ovaries, cannabis indica will not only give local relief, but will also stop the headache and feeling of restlessness which so often accompany pelvic troubles in the female. For the irregular and painful menstruation which is so often seen at the age of puberty, the cannabis indica may be administered with belladonna, with the result of reducing an excessive flow of blood and causing the pains to disappear. These drugs are equally valuable at the menopause. Some patients will tolerate only a very small dose of the belladonna.

For Intractable Eczema.—It is recommended in cases in which the application of any medicinal substance whatever seems only to increase the irritation of the skin, to cover the affected area thickly with starch powder. After forty-eight hours the crusts are removed by means of compresses dipped in sterilized water, and the powder is reapplied. Excellent results are said to be obtained by this method in very severe cases which had resisted all previous treatment.

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OF MEDICAL SCIENCE.

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SATURDAY, SEPTEMBER 3, 1898.

RED TAPE THE STUMBLING-BLOCK OF THE ARMY.

WHEN Montauk Point was selected as the location of the reception camp for the Fifth Army Corps upon its return from Cuba, an air of relief pervaded the entire country. The location of the camp seemed eminently wise; no point on the coast has such bracing air, the yellow-fever bacillus cannot live in it for a minute; the facility for procuring an inexhaustible supply of excellent water almost anywhere on Long Island is notorious, and New York City as a base of supplies is only three and one-half hours distant by train and six by water. Upon this ideal spot was to be constructed a model camp and here our wounded, sick, and exhausted soldiers should receive such tender care as would quickly nurse them back to health, and bring swift forgetfulness of the neglect and horrors they had suffered in Cuba.

It must in all fairness be admitted that the time for getting the camp ready before the arrival of the first detachment was brief. But for some apparently inexplicable reason affairs did not move forward with that despatch which characterizes the rush work, when necessary, of a private enterprise. Each department insisted that its individual work was advancing satisfactorily, but there was no harmony of action, no system, no governing mind. The result was that the work that needed to be done first was no farther advanced than that which might have been delayed to the last, and when the transports landed nothing was finished and everything in confusion.

The unfortunate consequences of all this fell upon the unhoused, poorly fed, famished, and wornout men of the ranks, as well as the sick and wounded, who, instead of having a reception, a home-coming worthy of the service they have rendered their country, were obliged to drag their gaunt and shattered frames to their designated camping ground where insufficient tents awaited them and the long familiar nauseating rations which their enfeebled stomachs were powerless to digest. And what of the sick in the hospital? The house-staff overburdened with work, the inmates suffering from exhaustion and emaciation, many of them bordering on collapse, and the supply of proper food sadly deficient. Such was the condition when the first detail of transports arrived. The second came, and the third, and still the conditions did not improve. Delicacies for the sick of every description and in great abundance, were to be had in New York, requisitions for them were made, but for some reason they were not available for the soldiers and the soldiers did not get them. The Red-Cross Society had no difficulty in procuring the desired and necessary supplies to the fullest extent of its exchequer and in distributing them to the most needy, but such supplies seemed beyond the reach of the regular army channels through which an abundant supply should have been forthcoming. In this state of affairs the Secretary of War appears upon the scene, cuts the Gordian knot of red-tape requisitioning, and the whole aspect is changed—hospital supplies and delicacies appear in abundance, the convalescents in the hospitals who are able to go home are granted furloughs of sixty days—the pressure for accommodations in the hospital is thereby removed, and the immates of regimental hospitals are transferred to the general wards—extensions to the hospitals go up on all sides, and supplies and medicines are coming in, and accommodations and proper food for the nurses are provided. Surgeon Major Brown declares that Secretary Alger did more for the camp in two days than a

hundred men not clothed with absolute authority could have done in a year. The explanation lies in a nutshell. He cut the knot of army departmental red tape.

ARMY ABUSES MUST BE INVESTIGATED.

THE neglect and incompetency which, during the recent war, have characterized the care of our troops in field, in camp, and in hospital have been fraught with direst consequences to the soldiers individually, and have been the source of grief, humiliation, and shame to the whole nation. The strong wave of indignation which is still sweeping over the country finds expression in a universal demand for a thorough and impartial investigation and the fixing of the responsibility for these unpardonable abuses. The Surgeon-General of the army petitions the Secretary of War for a Court of Inquiry, in the full confidence that its findings would relieve him and the Medical Department of the blame which has to a certain extent been charged against him. In answer to all this the Secretary of War issues a patched-up report of a whitewashing Committee of Investigation to the effect that the conditions complained of were unavoidable and no one is responsible. The Secretary goes to Camp Wikoff at Montauk Point, talks in a fatherly way to the individual soldiers, as he meets them, says he is sorry for them, and issues a furlough to every one who is ready to accept it. In a direct and authoritative way he did some good things also and left the camp in much better condition than he found it. But gratitude for a bit of personal kindness now does not excuse the criminal negligence that made that display of personal kindness possible in some instances and impossible in others, for the reason that the natural recipient of it has been needlessly sacrificed. No, Mr. Secretary, a little personal kindness done now to that camp of physical wrecks does not compensate for the great wrong that was done them at Santiago, at Siboney, and on board the transports. Some one is responsible. The hunger, the suffering, the neglect was unnecessary and, therefore, inexcusable. The country demands that the responsibility shall be established and though it may not come through a departmental investigation at your hands, Congress will probe the matter to the bottom. Perhaps it is better so; for in fixing the responsibility for the present abuses, errors of organization may be discovered that require legislative action.

EPIDEMIC CEREBROSPINAL MENINGITIS.

IT will always remain a mystery that the State of Massachusetts, which allows any one to practice any school of medicine unlicensed in any way, produces such excellent official documents as those published by its State Board of Health. Drs. Councilman, Mallory, and Wright of Harvard University have just published the results of their study of an epidemic of cerebrospinal meningitis which occurred last year in the State, and the article is in every way a tribute to the industry of these gentlemen and a matter of pride to the State Board of Health.

The authors found that the disease is most prevalent in the winter and spring, and that children and young adults are particularly susceptible to it. The disease differs from other varieties of meningitis in that the meninges of the cord are more frequently attacked, and that the nerves are more frequently involved in the inflammatory process.

The *diplococcus intracellularis* was a constant finding of the authors, who saw it only in the lesions of the disease. They believe that it enters the brain by way of the nose. Lumbar puncture, in which comparatively large quantities of cerebrospinal fluid were withdrawn, gave evidence of the micro-organism in 68.1 per cent.

In the most acute cases macroscopic examination showed little change in the vessels. Microscopic changes: injection of the blood-vessels with leucocytes in and about their walls; little fibrin present; the leucocytes always polynuclear with an intense nuclear stain. The inflammatory lesions of the brain and cord are purulent, seropurulent, and fibropurulent. The ventricles are never free, and in some of the chronic cases the surfaces of the lateral and fourth ventricles were covered with granulations. The authors found the tissues of the cord always less affected than that of the brain. There is a hyperplasia of the neuroglia cells; the cells are swollen, their nuclei large and contain masses of chromatin of varying size. The nuclei are often surrounded by irregular, branched masses of granular protoplasm. The authors found the second, fifth, seventh, and eighth nerves quite uniformly affected.

In seven of the cases there was a complicating

bronchopneumonia, in two a croupous pneumonia, and in thirteen a mere congestion with some edema. The diplococcus was found in eight cases of pneumonia. The spleen is usually not enlarged, and in uncomplicated cases the lymphatic glands were not involved. The kidneys showed acute lesions in two cases, in one of which, however, the renal disease was independent of the cerebrospinal process. Herpes was present in 31.7 per cent. of the cases, and petechiæ were found in a number of instances.

The map, charts, and magnificent plates, accompanying the report, add to the value of the scientific text. The issuance of such reports is a credit alike to its authors and to the generosity of the State which pays for it.

ECHOES AND NEWS.

Monument to Charcot.—A monument to Charcot will be formally unveiled in the Saltpétrière Hospital at Paris on October 23, 1898.

Dr. Page's Library.—The widow of Dr. R. C. M. Page of New York has presented to the University of Virginia the library of her late husband, consisting of about 650 volumes of valuable miscellaneous works.

The Next Meeting of the British Medical Association.—The next annual meeting of the British Medical Association will be held at Portsmouth, England, which city has never before had the honor of entertaining the Association. The president-elect is Dr. Ward Cozzens of Portsmouth.

Home-Sickness in the Army.—Now that the process has been begun of mustering out regiments whose services will not be required, it is reported that a wave of home-sickness is going through the camps in various parts of the country. This is said to be especially the case in the Seventh Army Corps at Jacksonville, Fla.

Yellow Fever at Franklin, La.—Dr. Carter of the United States Marine Hospital Service reported August 24th that the patient under suspicion at Franklin has developed unmistakable symptoms of yellow fever. This is the second case reported there. The people of the neighborhood continue a cordon of armed guards around the town.

Unhealthy Condition of the Volunteer Camps.—The Relief Commission estimates that there are at present 40,000 invalid soldiers in the army camps of the United States. Major-General Wheeler says that the men arriving at Montauk Point from Florida and the South are in quite as bad condition as those that come from Cuba.

Pean's Casts to Be Preserved.—Madame Pean, widow of the well-known French surgeon, has presented to the museum of the Hôpital Saint-Louis her husband's collection of 614 anatomical and pathological casts. The mold of each cast was destroyed after the cast had been exhibited and reported; hence, the collection is of high value.

American Physicians Honored.—The University of Edinburgh has conferred its honorary LL.D. upon Professor H. P. Bowditch of Harvard University and Professor William Osler of Johns Hopkins University. The University of Michigan, at its last Commencement in June, conferred its honorary degree of LL.D. upon Professor Abram Jacobi of New York.

A Fund for Medical Research.—Mr. Balfour, leader of the British House of Commons, recently delivered an address on the occasion of the distribution of prizes at the Medical School of Guy's Hospital on the subject of "Medical Research." A member of the audience became so interested in the subject that he sent an anonymous gift of $6000 for the establishment of a fund for the continuance of this work.

The Eighth Massachusetts Regiment.—In the MEDICAL NEWS, August 20, 1898, the Eighth Massachusetts Regiment was reported as being stationed near Santiago. This was an error. The regiment has been encamped at Chickamauga, and has never left our shores. Dr. J. G. Mumford of Boston says: "Nevertheless, its good state of health is notable, considering the conditions reported from that camp."

Dr. John Frederick Morse Dead.—One of the best-known surgeons of the Pacific Coast, Dr. John Frederick Morse of San Francisco, died suddenly at his home, August 21st of cerebral hemorrhage. He was a member of the San Francisco Board of Health, and a prominent mason, while as a surgeon of rare skill his fame had spread far and wide. It is said that he was the first to operate successfully for the cure of aneurism of the abdominal aorta, for which he received the congratulations of such distinguished surgeons as Czerny and Verneuil.

The Kentucky School of Medicine.—The late unpleasantness in this institution, according to Dr. Samuel E. Woody, has been carried into the courts, and has gone to the stage of a judicial decision granting an injunction against Dr. Wathen restraining him from claiming either orally or in writing to be Dean of the Faculty of the Kentucky School of Medicine, and from claiming the right to receive any mail addressed to Dr. Woody as Dean, or to the Dean of the Faculty, or to the Kentucky School of Medicine. The injunction also restrains Drs. Cochran and Boyd from claiming either in writing or orally to be professors in the school.

Suicides in the German Army.—Suicides resulting from the brutality to which privates are subjected continue to disgrace the German Army. At Ludwigsburg, a private in the Uhlans named Vögele took his life after an officer had beaten him about the head with a heavy-spurred riding boot. Several other suicides are reported this week. A private at Döbeln put the muzzle of his rifle in his mouth

and pulled the trigger with his foot; the same process was adopted by a private at Langenhennersdorf; a petty officer shot his brains out at Borna; a Hussar of the Grossenhaine Regiment put an end to his sufferings by hanging. Melancholy is the cause generally given in the official reports for these fatal acts.

Golf at the British Medical Association Meeting.—"We hope," says the *Medical Press*, "that the golf contest will henceforth become an annual feature of the British Medical Association Meeting. Golf is undoubtedly the pastime *par excellence* for medical men. All the petty annoyances of practice and the anxieties of a troublesome case vanish under the softening influence of the drives, approach shots, and skilful long puts. The idea, therefore, of bringing together the devotees of the game at the Edinburgh meeting was a happy one. Contests were arranged between residents in Scotland and the rest of the world. Of course, the Scotchmen were skilful, and the serious beating that the "rest of the world" received was not calculated to create a favorable impression of the progress of the game outside the borders of the country which gave it birth."

A New Question of Responsibility in Connection with the Army.—The routine methods of peace are not adapted to emergencies in times of war. This finally dawned upon the War Department, and on August 10th an order was issued from the Adjutant-General's Office permitting certain surgeons to draw upon a special fund for delicacies for the sick regardless of departmental routine. This was sent to the Surgeon-General for transmission to the designated authorities. It read as follows: "Medical officers in charge of general hospitals, hospital trains, hospital transports, and hospital at the camp at Pablo Beach, Fla., and at the hospital at the camp at Montauk Point, N. Y., will be allowed to expend from the appropriation, 'subsistence of the army,' for the diet of the enlisted men undergoing medical treatment under their charge, at the rate of not exceeding sixty cents per man per day for the period each is undergoing treatment. The allowance so made will constitute a special fund in the hands of the medical officer in charge, from which will be purchased the entire diet of the enlisted men while undergoing medical treatment. These purchases will be restricted to articles of food, solid and liquid, the quantities and varieties of which will be determined by the medical officer in charge. Chief commissaries of departments will transfer to medical officers in charge such subsistence funds as may be estimated for by the latter for carrying out the objects of this order." On August 25th, the War Department discovered that the Chief Surgeon at Fort Myer, Va., had not heard of the existence of the order. It is said that the Acting-Secretary of War was very indignant at the Surgeon-General when he learned this, and directed that the substance of the order be telegraphed to every chief-surgeon in charge of a general or field hospital. It was afterward learned that Surgeon-Major Wood at Montauk had a copy of the order which had been promptly received, and it is believed that all the other properly designated surgeons had also.

CORRESPONDENCE.

SOURCES OF MALARIAL FEVER.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I beg to offer a few facts from observations made from 1879 to date on malaria. The theory advanced by Professor Robert Koch in the Berlin letter to the MEDICAL NEWS under date of June 25th he admits is not original, as the rôle of the mosquito had been mentioned by Bignami, Manson and Ross.

In the long years before Laveran's discovery of the malarial parasite all writers believed the poisonous material might enter the system by the digestive tract or through the lungs; by drinking contaminated water or inhaling emanations from damp and marshy places during the night and in the early morning before the heat of the sun had cleared the atmosphere. The people who lived in the marshy districts of Italy and Greece slept in the uppermost portions of their houses or on platforms raised about fifteen or twenty feet above the earth to avoid the vapors rising from the soil during the night.

In England the disease was usually ascribed to impure water, while in the United States both air and water infection were equally recognized.

At the meeting of the American Climatological Association in 1894 Dr. W. H. Daly of Pittsburg, Pa., read a paper on "Malaria a Water-borne Disease," in which he tried to prove that only the surface water is capable of producing the disease, that water from deep wells is safe and the mists arising from marshes or newly broken ground are perfectly safe.

At the meeting of the American Climatological Association in 1895 Dr. Richard C. Newton read a very interesting paper in which he admits the possibility of infection from water in some cases, but claims the majority are produced by aerial transportation. At the same meeting (1895) Dr. Thomas Darlington, Jr., of New York City read a paper on "Malaria in New York City," showing the disease to be present in various forms all over the city, sometimes traced to air infection from digging up streets, sometimes from bad water.

In the "Johns Hopkins Hospital Reports" for 1895, Nos. 1 to 5, Drs. Thayer and Hewetson give an analysis of 616 cases in "A Study of the Malarial Diseases of Baltimore" in which they state, regarding the mode of infection (page 54), that "experimentally it has been shown that while infection through the alimentary tract is improbable, subcutaneous infection is possible, as is also intrapulmonary infection."

In March, 1896, Dr. Patrick Manson delivered the Gulstonian lectures before the Royal College of Physicians of London on the "Life History of the Malarial Germ Outside of the Human Body." In these lectures Dr. Manson described the various forms found in different types of malarial disease, regarding man as an alternative host from whom they must escape in order to complete their life cycle and this condition can only be brought about by their withdrawal from the circulation of man through the agency of suctorial insects more especially mosquitoes, whose presence in malarial localities is well

known. Reasoning by analogy from his studies of the *filariæ* he thinks the plasmodia taken from man by the mosquitoes continue their development until they reach the stage of sporulation, that they then pass from the insect and are diffused in the soil or water, returning thence to man.

In the London *Lancet* for November 14 and 21, 1896, Dr. Amico Bignami of Rome, Italy, reviews at great length the work of Manson, Ross, Laveran, Celli von Fodor, and others who advocate the water or air methods of infection and suggests the bites of insects as the most plausible cause, drawing his conclusions from a study of Professor Allen J. Smith's methods of inoculating Texas fever by the cattle-tick.

At a meeting of the Section on General Medicine May 18, 1897, of the New York Academy of Medicine, I reported a series of cases of tertian intermittent which were seen in this place during February and March, 1897, during exceptionally cold weather and while the ground for many weeks was deeply covered with snow. The first patient, a woman eighty-two years old, was taken suddenly ill with severe gastric irritation, nausea, vomiting, and some paroxysms of fever; at her suggestion that "it might be malaria" I made a careful examination of the blood and found the Laveran plasmodium. A few days later her daughter, forty-nine years old, had a similar attack and the blood examination proved the diagnosis to be malaria. As the deeply driven well was found on examination to be free from taint and the family had not been away from home for several years I was at a loss to account for the disease, until my attention was attracted to a series of shelves one above another occupying all the windows and literally packed with potted plants. All the shelves were *much higher than the seats and beds which were in the rooms.* I had the rooms thoroughly cleared of all plants *and not until after this had been done* could I get results from my treatment.

A mile from these patients during the same month cases developed in two children (under similar conditions) in one family. Removal of *all* plants from the house hastened the recovery. Another case during this period in a man of thirty years could only be accounted for by the quantities of green mold covering the cellar walls under his office. He was a bookkeeper and stood all day upon a loosely fitting trap door which led into the cellar from his desk. A thorough cleansing and ventilating of this cellar undoubtedly was an important factor in his recovery.

After my experiences with these cases, and during the continuance of the cold weather, I went to some florists in localities where there were no marshes and where they were not likely to be infected by the water-supply, inquired their history, and made blood examinations. I found in four different localities people whose blood contained the malarial plasmodium. These florists were not ill but they were hardly ever quite well, complaining of digestive trouble, headache, and indefinite symptoms. They could be straightened up temporarily by a big dose of quinin.

From July, 1879, till July, 1883, inclusive, I lived in the mountains of Colorado and in each year during the spring months I saw many cases of what was called by the miners and hunters of that region, "mountain fever." This condition was undoubtedly from all the surrounding conditions and clinical evidence tertian intermittent, produced by the action of melting snow, decaying vegetable material, and sunlight. Hertz mentions a similar fever developing in the mountainous regions of Russia at the time of the melting of the snows.

During 1889-'90 I resided in Charleston, S. C. As *filaria sanguinis hominis* is endemic in Charleston I made use of sterilized water for drinking, and as I rode out into the surrounding country every clear afternoon, was careful to return early before the mists rose from the marshes. By these precautions I kept well, and frequent blood examinations gave a negative result. Later in the winter increase of work made my rides extend to a later hour in the evening, and through this exposure I contracted a sharp attack of pernicious intermittent fever with a plentiful supply of malarial parasites on each slide of blood examined. The mosquito was absent from Charleston during this time, he was not present in my experiences in Colorado, nor did I see anything of him during the winter of 1896-7 in Sag Harbor.

During the past year I have seeen many cases of tertian fever but have been entirely well. On Friday, July 15th, I spent the day at Montauk Point, returning by train at 9 P.M. I sat in my office writing until midnight, then rode home on my wheel (about one-half mile). Midway to my house the roadway is lined thickly with trees whose branches hang very low. The gardens at this point are slightly below the level of the street, very damp, and packed with flowering plants. As I rode into this section the heavy, marshy character of the air surprised me as it was so very different from anything which I had ever met here, but we have had a very wet, warm summer and I gave it but a moment's thought. On Saturday morning, the 16th, I awoke at 7 o'clock with an intense throbbing headache and intense nausea, which was followed at short intervals between 9 and 11 A.M. by vomiting of bile and watery mucus, and a slight diarrhea. At 11 o'clock I had a sharp chill lasting about twenty minutes, followed by a steady rise of temperature to 103° F. About 3 o'clock the sweating stage appeared and at 5 o'clock I felt comparatively well and had a cup of coffee and toast. During Saturday night, Sunday, and Monday I found malarial forms in my blood, but felt quite well all the week until the morning of July 25th, when I had a slight rise of temperature (101° F.) with headache and intense nausea but no chill, and was able to rise at noon and attend to my work. I took no medicine to break up the attacks, nor did I take anything in the intervals between them.

Mosquitoes are not very plentiful on this portion of Long Island and I have not been annoyed by their attempts to carry away my plasmodia.

I have ventured to intrude upon your time and space to show (1) that proper conditions will produce malarial fever even in mid-winter: *viz.*, heat, moisture, and decaying vegetable material with the mosquito absent; (2)

that exposure to the poison may be very brief and yet produce a prompt result; (3) that the mild attacks seen in this region are self-limited and may often pass away without the use of quinin or medicine in any form—simply by rest in bed and abstinence from food and drink.

Yours very truly,

J. RICHARD TAYLOR, M.D.

SAG HARBOR, N. Y., August 14, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE WAR DEPARTMENT'S INCOMPETENCY — HOSPITAL TRAINS FOR THE SICK SOLDIERS—THE RED-CROSS SOCIETY—PERSONAL NOTES — STATE MEDICAL EXAMINING BOARD—DR. PEPPER'S FUNERAL —HIS SUCCESSOR—A CASE OF STRAMONIUM POISONING — HEALTH-BOARD REPORT AND HEALTH STATISTICS.

PHILADELPHIA, August 29, 1898.

THE indignation felt so generally throughout the country at the gross mismanagement and incompetency of the War Department is particularly acute at Philadelphia and returning volunteers only serve to intensify the general condemnation of Secretary Alger by their stories of privation and distress. The city newspapers have been as aggressive in this respect as they have been valiant in their defense of the medical arm of the service which Secretary Alger and General Shafter seem to delight in besmirching. Of the horrible conditions existing in the various camps no better proof need be furnished than the large number of invalids among the Pennsylvania troops who went to the front well equipped materially and physically.

Dr. S. S. Cohen, having in charge the wards of Jefferson Hospital, where some of the invalids are being cared for, said Sunday that he considered every case of typhoid occurring in a modern city like Philadelphia, or in the camps of an army of a civilizated nation, an evidence of gross neglect by the authorities, and that typhoid fever being a preventable disease, deaths occurring in consequence of it are as surely murders as if the victims had been poisoned by an act of the enemy.

City Councils, so many times abused for its dilatory methods in matters of public welfare, has for once aroused itself to the occasion and already two hospital trains have been sent to the various camps to bring home sick and convalescent members of the Philadelphia regiments. Dr. Wilmer Batt, a member of Councils, secured an order from Secretary Alger permitting the men to return, a committee from Councils having agreed to guarantee all expenses, and the city hospitals furnishing physicians, nurses, sheets, blankets, etc., and the use of their wards.

The first train brought 110 men, and was composed of four hospital cars, a baggage-car fitted as medical headquarters and kitchen, and one parlor-car for the use of the physicians, Drs. Egbert and Pfromm in charge, and the nurses. The second train arrived Saturday with 57 men, Drs. de Schweinitz and B. F. Stahl having it in charge.

The Red-Cross Society will not soon be forgotten by Philadelphia's regiments, for the only comforts they received were those furnished by the Society, the receipts to date being about $10,000.

Major Lawrence S. Smith of Philadelphia, surgeon of the First Army Corps, died at sea, August 15th of typhoid fever while on his way home on the hospital ship "Relief." He graduated in 1891 from the University and served as resident physician at both the University and Pennsylvania Hospitals.

The city seems more deserted than ever, many physicians having left town this month for a few weeks' rest. Dr. H. A. Hare is at Winter Harbor, Maine, for August and September; Drs. Orville Horwitz, Louis Starr, and J. Madison Taylor are at Bar Harbor; and J. C. Wilson is traveling through Canada. W. W. Keen is in Europe. W. M. L. Coplin and E. A. Thornton have returned from "roughing it" in West Virginia.

Dr. Thomas J. Yarrow has been elected to fill the vavancy of pathologist and bacteriologist at the Samaritan Hospital.

Dr. T. H. Andrews is the recipient of a peculiar bequest in the shape of the body of an eccentric tailor who died last month directing in his will that his body be presented to the doctor. Mr. Kelly, the tailor, had various theories as to the prolongation of life by a correct diet, and for several years his food was carefully weighed and the chemical properties noted, but his theory was evidently not perfect, for he was only about fifty-five years of age when he departed this life leaving his body to science and fame.

Dr. G. G. Groff, President of the State Board of Health, returned to the city this week having gone to Porto Rico on Mr. Van Rensselaer's yacht "May," which took some seventy tons of supplies and delicacies to the army in Porto Rico, the gift of the National Relief Committee of Philadelphia.

The results of the June examinations of the State Medical Examining Board show a higher percentage of failures than ever before, 47 out of 254 applicants failing to reach the standard, a trifle more than 18 per cent. That college and State requirements are becoming more exacting each year is very evident and it must certainly, in the future, accrue to the benefit of the profession in this day of Christian-science humbugs, osteopaths, and quacks.

The funeral services of Dr. William Pepper in St. James' Church were simple but impressive. A vast throng of physicians, men of science, and laymen filled the church to overflowing, all anxious to pay honor to the dead. Drs. James Tyson and S. Weir Mitchell were two of the honorary pall-bearers, the others being representatives of the American Philosophical Society, the Free Library, the Philadelphia Museums, the Alumni Society of the University of Pennsylvania, etc. Dr. Pepper made two requests in his will concerning the disposition of his body: first, that it be cremated; second, that his brain be presented to the American Anthropometric Society of which he and the late Dr. Leidy were members. Speculation is rife as to Dr. Pepper's successor in the Chair of Practice of Medicine at the University of Pennsylvania, Dr. Osler of Johns Hopkins University, and Dr. James

Tyson being the apparent candidates, with the chances in favor of Dr. Osler.

Last week a patient at one of the city hospitals died with symptoms of exhaustion from sunstroke, but as he had not been in the hospital twenty-four hours, the coroner's physician, Dr. Cattell, held an inquest which developed the fact that death was due to the excessive use of stramonium for the relief of asthma.

That sanitary inspection of the milk-supply is bearing fruit is evinced by some statistics just published by the Board of Health, the mortality among children under five years of age for the month of July having been reduced from a total of 1485 deaths in 1897 to 1070 in 1898, notwithstanding a large increase in population. Prosecutions against milk-dealers have been followed up vigorously, and several cases of ham-poisoning which occurred last month have made the authorities more alert in the inspection of meat.

The total number of deaths occurring in Philadelphia during the week ending August 27th was 429. The total number of new cases of contagious diseases for the week was 191, as follows: Diphtheria, 56 cases with 8 deaths; scarlet fever, 17 cases with 2 deaths; typhoid fever, 118 cases with 9 deaths.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

GERMAN MEDICAL EXAMINATIONS—THE ABSENCE OF CERTAIN OBJECTIONABLE ELEMENTS SO STRIKING IN THE AMERICAN SYSTEM—ARTIFICIAL PEPTONE; A NEW FOODSTUFF — THE GERMAN BATTLE AGAINST QUACKERY AND IRREGULAR PRACTITIONERS.

BERLIN, August 22, 1898.

THE medical courses at the various German universities have drawn to a close and the vacations are on. The end of the semester came without any of that intense strain that marks the end of the medical year at an American medical school. To show that students have been in attendance up to the end of the semester their cards must be signed during the last days of July or the first of August, but cannot be signed before so that students may not arbitrarily begin their vacations some weeks ahead. But the suspense, worry, and excitement incident upon a series of examinations crowded together during the last few weeks of each scholastic year is absent. It is one of the most striking things about the close of the semester over here and one that cannot help but be a source of thought to the American medical student abroad.

If anything is clear it is that the present American system by which, especially in final examinations, all the medical branches are arbitrarily crowded into a series of examinations that all would-be graduates must pass within a period of a few weeks, is a source of untold evil and of very little practical good. A heap of undigested information is crammed by students to be retained just long enough to enable them to pass the examinations. The cramming process is, however, under present circumstances accompanied by a nervous strain at high tension that lasts for months. The waste of nervous energy involved must, if the question of an original definite store of vital energy for each individual be assumed to be true, prove an undoubted factor in shortening life. Most classes I think, however, do not have to appeal to this indefinite and not easily computable damage in general, but can often appeal to a death-roll of half a dozen members within a year or two after graduation, the mortality being the result of disease contracted during the stage of lowered resistive vitality consequent not so much upon mental overwork as upon nervous irritation and worry during the weeks preceding examinations.

Under present conditions in America it requires an act of heroic courage and supreme common sense to dare to give up the preparation for examination, because the strain of it is evidently telling upon the health. Very few have the independence of spirit to do it. On the contrary, the feverish excitement of others around him, all engaged at the same task, incites to further efforts at a time when very probably the student is already working to the top of his bent. Any one who has studied the faces of a large class of medical men during the trying times preceding final examinations cannot help but have seen the drawn, worn, tired, overdone look that settles down like a pall over faces that were so cheerful a few months before. Those who have been through the ordeal recently must look back on it as one of the most trying times of their lives.

Yet this sort of thing goes on in the face of the modern medical effort so eminently praiseworthy to make education less injurious to health. Instead of being models of what educational hygiene should be, and this might justly be demanded of them since the arrangement of all details is in the hands of *doctors*, medical examinations are probably the most unhygienic educational institution that the worship of that fetish examination as a deity, whose decision is all important, has brought down to us from medieval times.

This is not, of course, the place to discuss the subject of examinations in general, but one cannot help but express the hope that in the very near future the American medical student shall have, like his European confrère, the privilege of coming up for his examinations when he feels himself ready; that after he has spent the time required for his studies he shall not be compelled to review practically the whole of his medical teaching in a few weeks, and then willy nilly present himself for examination or wait a whole year for another opportunity.

With the spread of medical knowledge, with the acquirement of new technical methods, finally with the unwarranted invasion of the medical course by various specialties, the final examinations are becoming more and more of an ordeal. Something must be done by the faculties of medical colleges if for nothing else but as an example for other university faculties in this matter of the abuse of examinations. Medical examiners themselves, at least the conscientious ones among them, will welcome the relief from this constantly recurring yearly strain upon themselves. For that it is a serious strain upon a man who takes the work earnestly to heart no one can doubt.

For the examiners it practically cuts a month to six weeks out of their intellectual life for the year, and the time of our serious medical workers in America is too precious a heritage in the present state of American medical science to be thus needlessly squandered.

For another class of examiners, of whom perhaps the less said the better, this crowding of it all into a short space seems to mean just so much less bother for them. Such short-sighted views have prevailed too much in American medical schools.

It is time that the more deliberate, more rational, and hygienic methods that prevail in European educational matters as regards examinations should find a place in America, too. The present system is unworthy of the thoroughly advanced position of our educational methods generally, and especially unworthy of the great profession which has known so well how to solve the problems of modern hygiene satisfactorily in other respects.

The rather startling announcement that comes from one of the closing sessions of the Chemical Congress at Vienna that peptone can be manufactured artificially by a simple and synthetic process involving very little expense, has been thoroughly exploited by the daily newspapers. So far absolute confirmation from an authentic scientific source is not at hand, but the daily press account is sufficiently circumstantial to be more or less reliable, and so it is to be concluded that Dr. Leo Lilienfeld, a Viennese chemist, has really attained the much sought for goal, the synthetic production of peptone.

The process which Dr. Lilienfeld is said to have demonstrated before the Chemical Congress was a synthesis of phenol and amido-acetic acid effected by means of the oxychlorid of phosphorus as an intermediate agent. As all of these substances are extremely inexpensive, phenol being practically a derivative of waste material in the tar industry and amido-acetic acid being an ammonia derivative and easily obtained from waste products in a number of chemical industries, the new peptone, as may easily be imagined, will bear no comparison as far as cost of production is concerned, with the ordinary peptone of commerce obtained from meat. Here is of course the merit of the new discovery, the production of an inexpensive food-product.

Such a discovery is not a source of a great deal of surprise at the present moment, for the trend of practical physiological chemistry, in Germany at least, has for the last few years been in the direction of furnishing new foodstuffs at once highly nutritious and inexpensive. All the chemists of the great chemical manufactories have been occupied with the problem, and a large number of such artificially prepared foodstuffs have been put on the market. At the Congress of Hygiene in Madrid Professor Finkler of Bonn demonstrated a new product called tropon, made from plant albumen, that he hoped would prove the solution of the physiological chemical problem, a nutritious inexpensive form of almost pure albumen. The time is ripe for Dr. Lilienfeld's discovery, and the actual synthetic production of albumen would only be a fitting termination to the series of investigations that have been conducted from so many different points of view, and that have been undoubtedly so mutually suggestive to the investigators.

It remains to be seen, however, if the high hopes thus raised will be actually realized in the practical value of the new product as a foodstuff. Our chemical knowledge of albumen of the peptones and the albumoses is at best hazy. Products might easily be obtained that would answer all our present tests for peptone and yet perhaps prove unavailable for purposes of nutrition as foodstuffs. Nearly all the new artificial foodstuffs have been hailed with a blare of trumpets which seemed to indicate that a new discovery has been made but which only served to show that the firm of manufacturers which had it in hand knew the value of advertisement for its introduction.

Even before modern advertising methods came in, however, to make supposedly scientific announcements suspicious, there were hopes raised more than once only to be disappointed in the matter of inexpensive easily preserved, easily carried foodstuffs. A great chemist thought he had found in gelatin a nitrogenous substance that was destined to revolutionize the question of nutrition. Despite its seemingly appropriate chemical constitution it proved to be utterly unavailable because the elements were not in a form in which Nature could split them up for assimilation. The new product could be made tasty and filling by the addition of certain other substances but it itself passed through the system unchanged.

It is a good many years now since the gelatin episode in medical history took place, but it may serve a useful lesson as to too ready acceptance of theoretically perfect synthetic food-products in our day. The test for such an article can only be its practical value as demonstrated by actual use and the study of metabolism during its consumption. No mere chemical tests can ever replace this, and time and investigation, especially in other hands besides its inventor's, must decide the ultimate utility of the new product.

German medical men are thoroughly aroused to the duty they owe the public and the medical profession itself in the matter of the suppression of quackery. Their efforts have now reached the practical stage and airy talk has given place to active measures of suppression of the evils that exist. Each month almost sees some new step gained and, though the hydra-headed evil does not down easily, it is clear that it is but a question of a short time now until this abuse in medical matters will be practically at an end. For countries which are not so fortunate in either the vigorous union of the medical men or the hearty cooperation of their legislators and jurists the present situation in the matter of quackery in Germany is interesting.

Two new features have presented themselves of late. One is very important legally. Recent decisions of the different State courts of Germany show they have at last practically united as to the meaning of the words "secret remedies." The sale of secret remedies has been forbidden for some time, but the courts were not clear as to what constituted a secret remedy. The decisions of the Prussian courts that it is any medical preparation not prescribed by a regular physician, the ingredients and

amounts of which are not openly printed on the package in terms intelligible to the most ordinary people, are now being accepted by the courts of other German States as the interpretation of the law in the matter, and the last of the patent medicines that have been kept on the market because of the pretexts furnished by contradictory State decisions now seemed doomed to disappear.

After the matter of secret remedies comes that other abuse of branch "drug-stores" in which there is practically no responsible head, the business being run in the interests of a distant firm, sometimes by clerks of extremely limited experience and capacity. The evil has not assumed any serious proportions over here, as the apothecaries, who alone have the right of putting up prescriptions and selling remedies that require a *doctor's* prescription for their use, are under thorough regulation. The "drogueries" represent the counter opposite the prescription counter with us, where everything from the Indian panacea to Dr. X's cure-alls and tooth-brushes and bicycle lamps may be obtained. They it is principally who drive a trade in the proprietary preparations that are allowed to be sold, and it is their regulation that will make the law against secret remedies finally effective. The crusade against them has just begun here and it will be interesting to Americans, to whom the same abuses are not unknown, to watch its progress and issue.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held April 5, 1898.

THE President, B. SACHS, M.D., in the Chair.

DR. ALFRED WIENER read a report of

TWO CASES OF BRAIN TUMOR.

In the patient presented the tumor was revealed by operation; in the other, the specimen was obtained at autopsy.

CASE I.—A male, twenty years of age, was brought to his clinic in June, 1897. He was born of apparently healthy parents, but the father was alcoholic. He was a seven-months' baby, but was born apparently in a normal manner. He was slow in learning to walk and talk. When about seven years old he had otitis media, followed by a profuse otorrhea. The present trouble first announced itself while he was playing cards; suddenly the cards dropped from his hands, and his face "felt stiff." He insisted that he did not lose consciousness, and that he felt as usual by the next day. Previous to this he had suffered from frequent and severe headaches, associated with vomiting. The pain was usually frontal. One month after the attack just described, there was a second and more severe attack. He remained dazed for about two hours; speech was slow, and he could express his thoughts only with difficulty. He slowly became weaker, and vision failed. When first examined there was no perception of light in the right eye; with the left eye he could see fingers at four feet; the pupils reacted to light; the veins were engorged; the disk was swollen and hazy. The tongue was protruded straight. The dynamometer showed marked loss of power on the right side. The patellar reflexes were absent on both sides. There was motor aphasia. Physical examination showed the heart, lungs, kidneys, and spleen to be normal, and the blood examination revealed a leucocytosis. There was increased excitability on the right side to the electric current. The boy appeared fairly well nourished, but was distinctly apathetic. Smell and taste and muscular sense were unimpaired. These symptoms pointed to a tumor. Abscess was excluded for the reason that there was no source of infection. The history was negative regarding tubercular and syphilitic infection. He had been unwilling at first to venture upon the diagnosis of the location of the neoplasm. The possibility of multiple tumors was borne in mind. After four weeks the reflexes in the lower extremities began to return. The headaches became more severe and the disturbance of speech more positively that of motor aphasia. He had therefore come to the conclusion that the tumor was a cortical one, involving the face and arm centers and the posterior extremity of the third frontal convolution—*i.e.*, the speech center. During this time the man had been on antisyphilitic treatment, but with negative results. The slow growth of the neoplasm led him to believe it was a glioma. An operation was advised because he was reasonably sure of the location of the growth, and because a trephine operation seemed justifiable even if the tumor could not be removed.

The patient was operated upon by Dr. A. G. Gerster on July 31st, but the operation through the scalp and skull was attended by such great loss of blood that further interference was postponed. A few days later the operation was resumed by Dr. H. Lilienthal. A piece of the tumor was removed and proved on microscopical examination to be a telangiectatic glioma. Any attempt at manipulating it resulted in severe hemorrhage. Some days after the operation a small abscess was found near the surface, and this was incised and evacuated. After this improvement was more manifest. On October 12th, it was noted that the patient was irritable, and at times, quite excited. He showed some ataxia in his movements; the speech was distinctly hesitating; the patellar reflexes were present, but much diminished. His muscular sense was still present. On November 1st another localized abscess was detected and evacuated. The tumor has been steadily growing out through the wound. On January 18th it was noted that the patient could no longer express the names of familiar objects. On January 28th the mass measured 4¼ inches in length, 2¼ in width at the upper portion, and 3¼ inches at the lower part. On February 8th, when he was just recovering from an attack of influenza, it was found that he could no longer walk alone, and that he was much slower of comprehension than formerly. On February 23d the tumor measured 5 inches in length, 3 inches in width at the upper portion, and 3¼ inches at the lower portion. During the month of March he became more apathetic and could not repeat his own name. At the present time there is paresis of the left facial and right upper and lower extremities; the patellar reflex is present on both sides; there is double abducens palsy,

more marked in the left eye; there is still a tendency to fall toward the right side and backward. The muscular sense on the right side is very much affected. The tumor now measures 5 inches in length, 3¼ inches in width at the upper part, and 3½ inches at the lower part. There have been no severe headaches or epileptic seizures. It is probable that the tumor has been growing just as extensively within the skull as on the outside. The forced laughing, the double abducens palsy and the aphasia all point to extensive involvement of the cortex by the growth.

CASE II.—A boy, aged seven years, seen first October 19, 1897. The child was born of healthy parents, but the father was alcoholic. The patient was the second child and was born after a normal labor at full term. He was perfectly well up to twenty months old, at which time he apparently had an attack of rheumatism, lasting five weeks. From then up to a short time before coming under observation he was well developed, both physically and mentally. It was then noticed that he went down stairs clumsily. About this time he came home one day with a marked swelling over the right frontal and parietal region, and said that a man had struck him with his fist over this part of the head. After this he suffered from severe headaches, and about the same time it was noticed that he was not as bright as formerly. It was next noticed that fluids would run out of his mouth while he was drinking. On October 19th examination revealed a paresis of the two lower branches of the right facial nerve without any electrical change. The tongue when protruded deviated toward the right. There were analgesia and slight dulness to touch on the right side of the face. The patellar reflexes were absent on both sides. There was no bladder or rectal trouble, and there has been no epileptic seizures. Although appearing distinctly apathetic he was fairly intelligent. There was also a double optic neuritis. No evidence of syphilis or tuberculosis could be found. Abscess was excluded for the same reason as in the first case. On account of the complete hemiparesis and hemianesthesia, without loss of the muscular sense, the tumor was thought to be subcortical and located near the internal capsule. The tumor was suspected to be a glioma on account of the location and the symptoms. He was put upon antisyphilitic treatment. On October 23d the patellar reflexes were found to be present but very much diminished, and anesthesia was more prominent, especially in the right upper extremity. On November 11th the optic disks on both sides showed marked atrophy and small hemorrhages could be seen in the retina. He walked with a distinct hemiplegic gait. On November 16th anesthesia was quite marked in the hand and face and the right arm was totally paralyzed. Up to December 2d the condition remained about the same. The patellar reflexes were exaggerated on both sides. On account of the extensive paralysis of the arm and face and slight involvement of the leg he had been inclined to believe that the greater part of the tumor occupied the centrum ovale. The antisyphilitic treatment had been given a fair trial without the slightest improvement. On January 20th, having recovered meanwhile from an attack of scarlet fever, it was found that there was spasticity on the paralyzed side, that he was unable to walk, and was totally blind. On February 7th he died, having been intelligent to the last moment. The autopsy was made by Dr. Wiener four hours later. The abdominal and thoracic organs were normal. The brain weighed fifty-two ounces. The convolutions over the left hemisphere were very much flattened. The left hemisphere was decidedly softened, and horizontal sections through it revealed a soft, infiltrating tumor occupying the entire centrum ovale. In the lower portion of the hemisphere the tumor was mainly frontal. The microscopical examination showed it to be a gliosarcoma.

Dr. Wiener said that the absence of the patellar reflexes had been reported by others, but no satisfactory explanation had been offered for this phenomenon up to the present time. Frontal ataxia, which was really due to involvement of the trunk muscles, which have their location in this particular portion of the brain was another interesting point. It was worthy of note that in both cases the father was alcoholic. In the second case as there was one symptom present before the trauma, he was inclined to believe that the trauma only served to make the pathological condition manifest. The relief afforded by the trephining was evident in the first case.

DR. C. L. DANA said that in the specimen he noticed a portion of the tumor lying back of the Rolandic fissure. This, he thought, might explain the ataxia He had recently seen a large abscess of the frontal lobe in which there had been no history of ataxia. It seemed to him straining the point to try and make it a frontal ataxia. It could not be from the involvement of the trunk muscles.

DR. J. ARTHUR BOOTH said that in the three cases of frontal tumor that he had seen there had been no ataxia and the reflexes had been absent after the symptoms had been well developed.

DR. JOSEPH FRAENKEL said that he was convinced that the condition of the knee-jerks was entirely dependent upon the contraction of the muscles. Another factor, of course, is the muscular sense, and still another is the difficulty of determining clinically slight disturbances of deep sensibility. In the case under discussion he would explain it by invasion of the frontal and parietal lobes, and the probable more or less marked disturbance of the deep sensibility.

DR. W. M. LESZYNSKY said that the more he tested the knee-jerks the more he thought the theory of inhibition could be, to a great extent, sustained. This had been particularly noticeable in cases of meningitis in children that he had observed in the early stages. These children had been previously tested for their knee-jerks as a matter of routine. When the signs of pressure had set in later the knee-jerks had become exaggerated, and this he attributed to the irritation within the brain. A similar explanation could be offered in connection with the case now under discussion.

DR. B. SACHS thought the question of ataxia in these cases could not be settled by the supposition that it was wholly due to the invasion of the tracts lying in the

vicinity of the parietal lobule, for the reason that ataxia had been noted in other cases of frontal tumor in which there had been no involvement of that particular region. It seemed to him, therefore, that the ataxia had come to be looked upon as a symptom of frontal tumor. The behavior of the reflexes in the cases reported seemed to him very remarkable. In his own mind the older theories were of greater help than the theory suggested by Van Gehuchten, or that propounded by Dr. Fraenkel. He believed Dr. Fraenkel was confounding things which are coincident, without necessarily being related, as cause and effect. It would not do simply to assume that there were changes in the deep sensibility which we were as yet unable to detect clinically. He was inclined to believe that the same causes which produce loss of reflex are also responsible for the changes in the tonus and in the deep sensibility. There was probably some additional fact in the explanation of the reflexes which was yet lacking, but we should not endeavor to make the facts fit the theory. Another interesting point in this case was the certainty with which it was diagnosticated as a subcortical tumor. The hope of an excision had been abandoned at a very early day. The diagnosis of its situation had been largely based upon the non-occurrence of epileptiform seizures from the beginning to the end of the disease.

DR. WIENER, in closing, said in reply to Dr. Dana, that he did not doubt that there might be tumors of the frontal lobe without any ataxia, but it had been shown that when the portions bordering on the frontal convolutions were destroyed there is this peculiar cerebellar gait. If Dr. Fraenkel's theory regarding the reflexes was correct he could not understand why, in the cases just reported, the reflexes should have returned afterward. He thought the increased reflexes were due to the destruction of the normal inhibitory influence.

A CASE OF SUBCORTICAL VISUAL APHASIA.

DR. JOSEPH COLLINS reported such a case, and presented the brain. The patient, a male, fifty-eight years of age, had not had syphilis, rheumatism, or gout, nevertheless the vessels showed well-marked arterial sclerosis. For five months he had been complaining of headache and vertigo. Then, without warning, he became unconscious and lay in a stuporous condition for about three weeks. After this he recovered his mental balance, but was unable to return to work because, it was said, of his "weakness." Examination of the eyes showed complete right lateral homonymous hemianopsia. There was complete word blindness, and almost complete letter blindness. He could not mark a word off into syllables. There was no object blindness. He recognized things and called them by their right names. He wrote very badly to dictation, and it showed that he could not retain the words in mind long enough. When asked to read what he had written, he pointed to each word, and said: "I would like very much to read," and contined to repeat this again and again. He did not give the slightest heed to words put in writing, although he responded promptly to spoken commands. Spontaneous speech was not materially disordered. The symptoms pointed to a lesion between the angular gyrus and the visual centers, situated in the posterior end of the left hemisphere. If the lesions were in the primary visual center, there would be object blindness.

The patient had been admitted to the City Hospital, and extended observation showed no material change in the above findings. He was easily excited. On November 8, 1897, he suddenly fell over in a general convulsion. He did not recognize any one after that, and soon developed a right-sided hemiplegia. The autopsy was made a few hours after death. There was no noticeable abnormality aside from the brain, except an extensive arterial sclerosis. The entire occipital lobe was reddish-yellow, and with the exception of the extreme posterior cortex, the brain was replaced by a cystic formation. Nearly all of the lingual gyrus and the cuneus had been destroyed—in short, the cystic formation involved the whole posterior part of the left hemisphere save the very apex of the cuneus, and particularly the inner surface. The remainder of the left hemisphere was apparently normal. The temporal lobes were not implicated. The depth of the lesion was almost through the entire thickness of the white matter, and into the ventricles. Both lateral ventricles were distended with clots.

REVIEWS.

OPERATIVE GYNECOLOGY. By HOWARD A. KELLY, A.B., M.D., Professor of Gynecology and Obstetrics in the Johns Hopkins University; Fellow of the American Gynecological Society, etc. With Twenty-four Plates and over Five Hundred and Fifty Original Illustrations. In Two Volumes. New York: D. Appleton & Co., 1898.

THIS work of Dr. Kelly, not only marks a distinct innovation in the conventional form of medical book-making, but also sets a high standard for all future text-books in this specialty. The distinctive feature of the book and one that impresses the reader upon first glance and grows more and more satisfying as familiarity with the work advances, is the great excellence and abundance of the illustrations; indeed, the first half of the first volume abounds in illustrations to such a degree that the text drops into a minor position. The illustrations are almost exclusively made from original drawings and, to the operating surgeon and the practical anatomist, bear evidence upon their face of being perfect reproductions from the living or dead subject; and, not only this, they are distinctively works of art.

The author's aim in writing the book, as announced in the preface, has been to place in the hands of the many friends, who, from time to time, visit him and follow his work, a convenient summary of the various gynecological operations he has found best in his own practice. The work is not, as had been generally expected, a digest of the literature of the subject but a record of the author's own personal work, and a description of operations as performed by himself. It must not be inferred, however, that he has confined himself, in this regard, to those particu-

lar features of the specialty in which he has done original work or prosecuted special research. In the two volumes the entire realm of gynecological procedures is pretty thoroughly embraced.

This is distinctively a work upon operative gynecology, and it is interesting to note that in the chapters the subject has been classified in accordance with the operative procedure described. In contrast to this are many recent gynecological books in which the subjects are classified in accordance with symptoms. It has been so long the custom in works on general medicine, to base the classification of the subjects upon the pathology of disease, that this recent marked departure from the custom of standard works implies a degree of uncertainty in pathology. This is not to be wondered at when we realize that at the present time we are passing through a transition stage, not only in pathology but also in therapeutics. Symptoms, we are sure of, and of surgical procedure there can be no doubt.

Dr. Kelly's original investigation into the subject of treating by operative procedure retrodisplacements of the uterus, his advocacy of suspension of the uterus by intraperitoneal bands, as well as his original method of investigating and treating diseases of the bladder, ureters, and kidney, have all been thoroughly presented in current medical literature, but they naturally form a very important part of the work under consideration. In lacerations of the perineum and relaxation of the vaginal outlet, Dr. Kelly follows literally the improved Emmet operation and illustrates it by elaborate and clear illustrations. It is, at best, a complicated procedure, and simpler methods are known to produce equally good, if not better, results.

It is somewhat of a surprise to find in so pretentious a work as this, and one destined to be more or less of a standard authority, indorsement and even advocacy of the teaching that the normal vermiform appendix can be palpated with certainty through the abdominal walls. The limited number of cases in which this is possible would certainly prohibit its introduction. The statement on page 481, that it is unjustifiable to attempt to dilate a cervical canal sufficiently to permit the introduction of the index-finger into the uterine cavity, will not meet with universal acceptance, nor discontinue that practice among men whose custom it is to resort to this procedure for the purpose of exploring the interior of the uterus with the finger.

As might be expected, the principal effort in the book has been expended in describing and illustrating surgical procedures. The author shows most careful study in investigating the cause of complications attending the recovery from surgical operations, but comparatively little attention is given to the etiology of original pathological conditions. The author is an ardent advocate of conservative surgery, especially of myomectomy in preference to hysterectomy for uterine tumors, and of the various conservative procedures recommended for preserving the healthy portions of the ovaries and Fallopian tubes for the purpose of continuing to the woman her menstrual experiences and securing for her, as far as possible, the possibilities of conception.

The few criticisms offered here are of minor importance. The book itself is a monument to the indomitable energy, devoted scientific spirit, and unsurpassed surgical skill of its author, and, in doing credit to him, honors likewise American gynecology and American surgery.

THERAPEUTIC HINTS.

For Chronic Laryngitis in Children.—

℞	Ac. hydrochlorici dil.	ʒi
	Aluminis	ʒiss
	Mellis	℥i
	Aquæ	℥v.

M. Sig. Use as a gargle every four hours.

For Erysipelas.—Apply the following ointment, covering with a roller bandage, or with a mask if the disease affect the face:

℞	Ichthyol	ʒiiss–v
	Petrolati	gr. lxxx
	Lanolini	ʒiv.

M. Ft. ungt. Sig. External use.

For Chronic Bronchitis.—

℞	Apomorphinæ hydrochlorat.	gr. ss
	Syr. pruni virginianæ	℥ii
	Syr. picis liquidæ	ʒiv.

M. Sig. One tablespoonful three times a day.

To Relieve the Pain of Ocular Neuralgia.—For this purpose MARKOFF considers morphin and cocain inadequate and recommends cyanid of potassium or hydrochlorate of quinin. The former is used in a warm ⅛–½-per-cent. solution, of which 5–10 drops are instilled into the widely opened eye. If kept dark and cool the solution can be used so long as it retains its characteristic odor. Hydrochlorate of quinin is used in 1-per-cent. solution (dissolved without acid). It is best combined with morphin as follows:

℞	Quininæ hydrochlorat.	gr. iss
	Morphinæ hydrochlorat.	gr. ¼
	Aq. dest.	ʒiiss.

M. Sig. Five to 10 drops for instillation. The pain is said to be entirely relieved after one or two instillations, fifteen minutes apart.

For Diarrhea of Tuberculosis.—

℞	Pulv. catechu	gr. xl
	Syr. krameriæ	℥i
	Tinct. cinnamomi	gtt. x
	Vini rubri	ʒiii.

M. Sig. To be taken within twenty-four hours in tablespoonful doses.—*Bricemoret.*

For Epithelioma of the Skin.—

The following plaster is recommended:

℞	Resorcin		ʒi
	Ceræ flavæ, Resinæ	aa	gr. lxxx
	Ol. olivæ		q. s.

M. Ft. emplastrum. Sig. External use.